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Abstract:

Raba Kistner Environmental, Inc. was contracted by Pape-Dawson Engineers, Inc., on behalf of the San Antonio River Authority, to perform an intensive archaeological pedestrian survey of the Lower Segment of San Pedro Creek. The northern boundary of the project area is the South Alamo Street Bridge, and the southern boundary is the confluence with Apache-Alazán Creek. The project area consisted of a 70-ft wide corridor along the center-line of San Pedro Creek. The field investigations were conducted over the course of three days in June of 2014. These days were preceded by several days of archival investigations to assess the types and degree of historic impacts within the project area. The fieldwork was followed by additional historic investigations and the analysis of the materials recovered and the consideration of recommendations associated with the planned project. The pedestrian survey was conducted under Texas Antiquities Committee permit number 6913, issued to Dr. Steve A. Tomka, who served as the Principal Investigator. Currently the project does not fall under the jurisdiction of Section 106 of the National Historic Preservation Act (NHPA) of 1966, although, proposed improvements may cause it to come under the regulations in the future. Kristi Miller Nichols served as Project Archaeologist. The field crew consisted of Chris Murray and Mark Luzmoor.

As part of the project, a 100 percent intensive pedestrian survey of the Area of Potential Effect (APE) was conducted by Raba Kistner archaeologists. A total of fourteen shovel tests were excavated along the creek banks. The shovel tests encountered modern materials mixed with some potentially historic artifacts. Common items encountered included glass, plastic, and metal fragments. A total of three backhoe trenches were excavated in selected areas to search for deeply buried deposits along the bank, and to confirm the extensive disturbances within the APE.

No significant cultural deposits were encountered during the course of the project. The shovel testing and backhoe trenching reveal extensive disturbances along the creek bank due to channelization and industrial activities that bordered San Pedro Creek spatially during the first half of the 20th century. Given the extent of disturbances within the APE and the lack of intact prehistoric or historic cultural deposits noted during the survey, RKEI suggests that the planned project will not impact significant buried cultural deposits within its APE. However, because the actual extent of impacts, their specific locations, their depth and their spatial extent is not known at this time, it is recommended that if extensive below ground excavations are needed to accomplish the goals of the project, archaeological monitors be available during construction. Monitoring should take place any time subsurface disturbances exceed 3-feet below the modern surface. San Pedro Springs and the creek which it forms have played a significant role in the region both prehistorically and historically and it is likely that pockets of significant undisturbed deposits may be present in the APE, even if they were not encountered during this survey.

All curated materials, as well as all project related documents, will be temporarily housed at the RKEI Laboratory until permanently transferred to the curation facility at the University of Texas at San Antonio-Center for Archaeological Research, upon the acceptance of this draft final technical report.

Management Summary:

Pape-Dawson Engineers, Inc. contracted with **Raba Kistner Environmental, Inc.** (**RKEI**) on behalf of the San Antonio River Authority (SARA) to perform an intensive 100 percent pedestrian cultural resources survey for the Lower Segment of San Pedro Creek. The project is part of the proposed San Pedro Creek restoration project in San Antonio, Bexar County, Texas. The intensive survey was conducted to ensure compliance with the Antiquities Code of Texas. The investigation was performed under Antiquities Permit Number 6913. Since the project is only in the early phases of planning and design, it does not fall under the jurisdiction of Section 106 of the National Historic Preservation Act (NHPA) of 1966. However, coordination with the appropriate state and federal agencies will be initiated prior to any on-the-ground improvements that would take place during future phases of this project. Dr. Steve A. Tomka served as Principal Investigator, while Kristi M. Ulrich served as Project Archaeologist.

The Area of Potential Effect (APE) is located along San Pedro Creek beginning south of South Alamo Street (FM 536) and continuing to the confluence of San Pedro Creek with Alazán and Apache Creeks. The length of this segment is approximately 1,850 lineal feet (575 meters), measured along the channel's centerline. The width of the APE is 70-feet, 35 feet on either side of the channel's centerline.

No previous archaeological investigations have occurred within the boundaries of the APE for this portion of San Pedro Creek. No archaeological sites have been recorded within the project area.

The intensive pedestrian survey of the Lower Segment of San Pedro Creek consisted of, the excavation of fourteen shovel tests and three backhoe trenches along the APE. The material noted on the surface consisted of modern trash likely washed into the creek banks and bed during rains. The shovel test encountered mostly modern material. A total of 304 artifacts were recovered during the shovel testing. The backhoe trenching did not encounter any significant archaeological deposits. Very few artifacts were noted during the excavation of the backhoe trenches and those that were encountered were located in the upper layer of soil associated with modern debris. No significant prehistoric or historic cultural deposits were encountered subsurface within the APE.

Artifacts collected during the course of the project were returned to the RKEI Archaeological Laboratory for processing. All curated materials, as well as all project related documents, are temporarily housed at the RKEI Laboratory until they are transferred to the University of Texas at San Antonio-Center for Archaeological Research facility for permanent curation.

Based on the extensive subsurface disturbances noted within the project area, and the lack of buried prehistoric and/or historic deposits, it is unlikely that the proposed improvements project will negatively impact buried significant cultural deposits. Nonetheless, due to the significant role of San Pedro Creek in the history of settlement of San Antonio during historic and prehistoric times, there is a strong likelihood that dependent on the types, depths and extent of improvement activities, significant deposits may be encountered during the project. Therefore, RKEI recommends that construction monitoring be conducted during the project to insure that significant deposits, if present, are identified early and are investigated prior to being negatively impacted. Monitoring should take place any time subsurface disturbances exceed 3-feet below the modern surface.

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Chapter 1: Introduction, Project Background and Area of Potential Effect

In May of 2014, Pape-Dawson Engineers Inc., (CLIENT) contracted with **Raba Kistner Environmental, Inc.** (**RKEI**) on behalf of the San Antonio River Authority (SARA) to perform an intensive archaeological pedestrian survey of a portion of San Pedro Creek. The project area consisted of the Lower Segment of San Pedro Creek. The project is part of the proposed San Pedro Creek restoration project in San Antonio, Bexar County, Texas. The creek restoration project includes bank stabilization, riparian vegetation restoration and the assessments of the architectural resources located along the banks of the San Pedro Creek. The project area is located on the *San Antonio East, Texas* (2998-133) USGS 7.5 Minute Quadrangle map (**Figure 1-1**). This project is a continuation of an intensive pedestrian survey conducted by Raba Kistner Environmental Inc., in 2013 (Clark et al. 2013). The previous survey encompassed the area from the tunnel outlet near Fox Tech High School to South Alamo (FM 536).

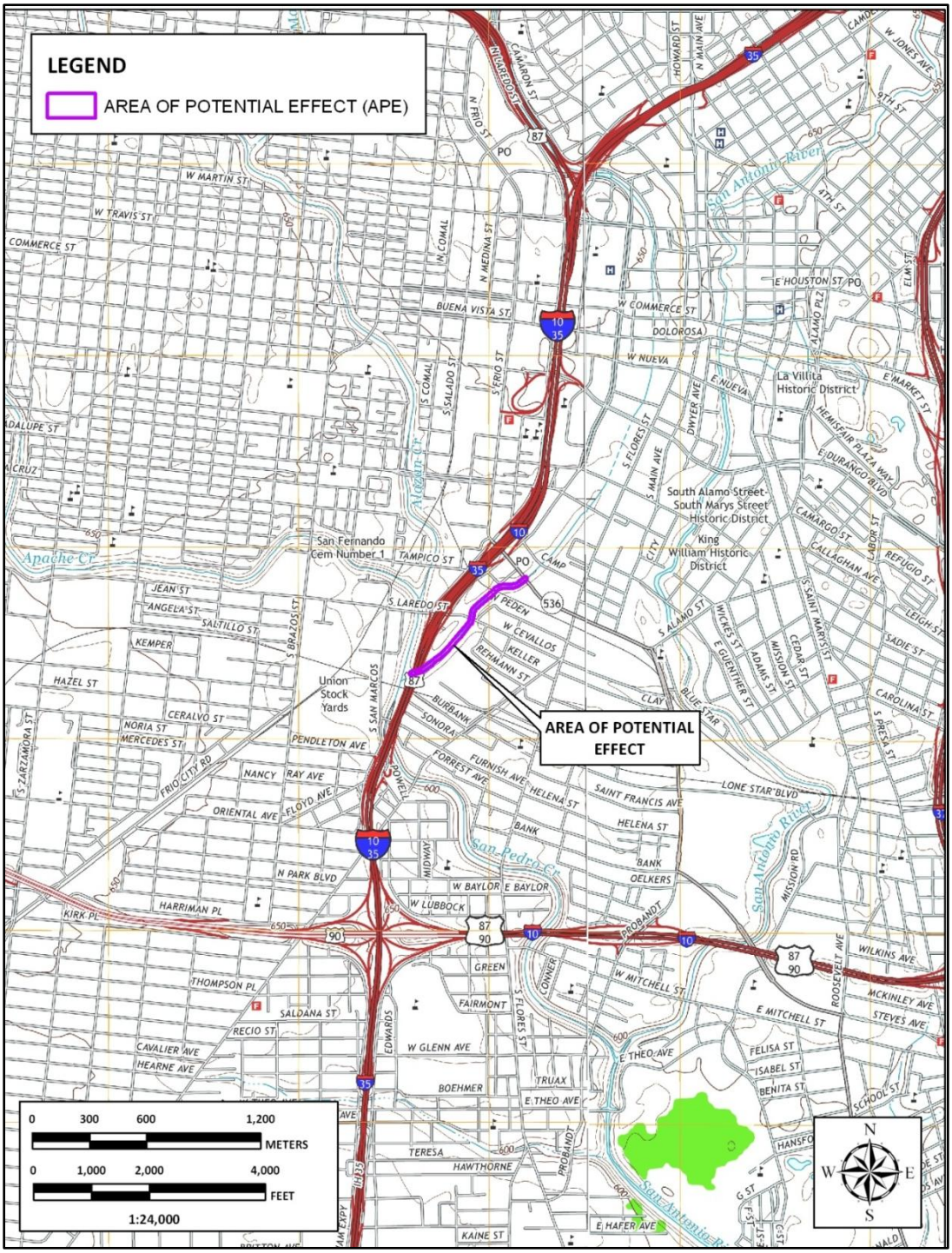

Figure 1-1. The project area on the *San Antonio East, Texas* (2998-133) USGS 7.5 Minute Quadrangle Map.

No federal funding is utilized in the completion of the project. Although the project at this time does not fall under the jurisdiction of Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, it is expected that future improvements may cause it to fall under the jurisdiction of the NHPA umbrella. However, since funding for the project is in part derived from public sources (County Bond funds) and the project will impact City and County-owned property, the improvements fall under the jurisdiction of the City of San Antonio Unified Code of Development, Chapter 35, as well as under the oversight of the Antiquities Code of Texas as administered by the Texas Historical Commission (THC). Given the significance of this waterway to the history of San Antonio, and the possibility that both prehistoric and historic archaeological deposits may be found within the project area of potential effect (APE), RKEI was hired to conduct an intensive pedestrian survey of the APE to ensure that undiscovered buried cultural deposits are assessed for their significance and eligibility for listing on the National Register of Historic Places and for formal listing as State Archeological Landmarks.

The San Pedro Creek restoration project is overseen by the City of San Antonio's Office of Historic Preservation (COSAOHP) and must meet the requirements of the Antiquities Code of Texas. During the course of the project, Raba Kistner coordinated with Pape-Dawson, COSAOHP, and the Architecture Division of the Texas Historical Commission. The archaeological investigation was conducted under Texas Antiquities Permit No. 6913.

While at this time, no specific kinds of impacts or depths of disturbance have been identified along the project Right of Way (ROW), the general approach is to restore the historic character and feel of San Pedro Creek, and creating a vibrant destination for local inhabitants and visitors alike. Some of the proposed physical improvements may include restoring flowing water for the surface channel; major landscape and public art enhancements, and shaded walkways and rest areas for pedestrian activity. Bexar County provided funding for the project through a bond package approved by the voters of San Antonio in 2013.

The Area of Potential Effect (APE)

The project area is bound by Alamo Street and the Apache-Alazán creeks confluence. The segment is approximately 1,850 linear feet measured along the channel centerline (**Figure 1-2**). From the centerline of the creek, the project limits for the archaeological survey extends to 35 feet on either side, for a combined total of 70 feet. The project area has been the subject of extensive modifications going

back to the first decades of the 1900s and especially after the establishment of the extensive railroad system in San Antonio. In addition, the repeated flooding that occurred in San Antonio both along the San Antonio River as well as other smaller streams, have precipitated several flood control-related modifications to the streams and creeks of the City, including San Pedro Creek. Specifically, these modifications have led to extensive grading of the banks of the channel combined with down cutting to increase the channel's carrying capacity in case of rain events (**Figure 1-3 and 1-4**).

Figure 1-2. A current aerial with the project corridor outlined.

Figure 1-3. Graded San Pedro Creek banks south of FM 536 (South Alamo Street).

Figure 1-4. Terrace of San Pedro Creek in the vicinity of U.S. Interstate Highway 10, near the south terminus of project area.

In combination, these modifications have dramatically altered the course of the creek, which itself meandered across its floodplain over time. The more recent modifications, however, resulted in the channelization of the creek, sculpting of its banks, and the construction of various industrial support facilities (i.e., railroad tracks, warehouses) along its banks. These modifications have all impacted the banks of the creek, and have also contributed their own cultural debris within the project area.

During the course of the survey a total of 14 shovel tests and three backhoe trenches were excavated within the project corridor. Although cultural material was encountered during the shovel testing, the items did not pertain to a significant cultural period and likely resulted from the deposition of modern trash during rain episodes. Backhoe trenching revealed that the soils differ greatly along the creek bank. Channelization of the San Pedro Creek has altered the creek banks. No significant cultural deposits were encountered subsurface along the APE.

Chapter 2: Environmental Setting

Project Area

According to the National Weather Service Southern Region Headquarters' *San Antonio Climate Summary* the City of San Antonio is located in the south-central portion of Texas on the Balcones Escarpment. Northwest of the city, the terrain slopes upward to the Edwards Plateau, and to the southeast, it slopes downward to the Gulf Coastal Plains. Soils are generally blackland clay and silty loam on the Plains and thin limestone soils on the Edwards Plateau.

Flora and Fauna

The project area is within the Blackland Prairie ecological and physiographic regions (Bureau of Economic Geology 1996). This area supports a wide variety of vegetation types including post oak (*Quercus stellata*), live oak (*Quercus fusiformis*), mesquite (*Prosopis glandulosa*), baldcypress (*Taxodium distichum*), and pecan (*Carya illinoiensis*) trees, and tall grasses. The different habitat types in this portion of Bexar County support a diverse array of wildlife. This includes species from grassland, open savannah, upland woodlands, and riparian habitats. A brief list of some of the animal species found in Bexar County includes the eastern cottontail (*Sylvilagus floridianus*), nine-banded armadillo (*Dasypus novemcincus*), white-tailed deer (*Odocoileus virginianus*), Virginia opossum (*Didelphis virginiana*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Carolina chickadee (*Poecile carolinensis*), northern cardinal (*Cardinalis cardinalis*), great horned owl (*Bubo virginianus*), mourning dove (*Zenaida macroura*), red-shouldered hawk (*Buteo jamaicensis*), northern mockingbird (*Mimus polyglottos*), Texas rat snake (*Elaphe obsoleta lindheimeri*), western coachwhip (*Masticophis flagellum*), Texas toad (*Bufo speciosus*), Texas spiny lizard (*Sceloporus olivaceus*), and of course the western diamondback rattlesnake (*Crotalus atrox*) (Blair 1950). The project falls within an area that may be considered the interface of two broadly-defined archaeological regions, the Central Texas and South Texas archeological regions (Black 1989; Collins 1995; Hester et al. 1989; Hester 2004).

Geology and Soils

A review of the *1983 Geologic Atlas of Texas, San Antonio Sheet,* indicates the project site is underlain by low fluviatile terrace deposits of the recent Holocene (Qt). These mostly low terrace deposits are above the flood level along entrenched streams (Bureau of Economic Geology [BEG] 1983).

According to the *Soil Survey of Bexar County*, soils within the APE are mapped as Houston Black clay (HtB), terrace, one to three percent slopes. These soils consist of long, narrow slopes generally adjacent to the larger drainage-way and are found mainly in the south-central and southwestern parts of Bexar County (Taylor et al 1991).

The surface layer consists of dark gray clay soils and is about 34 inches thick followed by subsurface layer that is gray clay, about 20 inches thick, and has blocky, crumbly structure. Most of the HtB soils are cultivated and native grasses and adapted perennials are grown. Water erosion is a hazard and water intake is slow (Taylor et al. 1991).

Chapter 3: Field and Laboratory Methods

Field Methods

The archaeological survey consisted of a 100 percent pedestrian survey as well as excavating shovel tests and backhoe trenches within the APE. All shovel tests were approximately 30 cm in diameter and unless prevented by obstacles or buried features, extended to a depth of 80 centimeters below surface (cmbs). Each shovel test was excavated in 10-cm increments, and all soil from each level was screened through 1/4-inch hardware cloth. No features were encountered. All encountered artifacts were recovered with appropriate provenience information for laboratory processing and analysis. A shovel test form was completed for each excavated shovel tests. Data collected from the shovel test included the final excavation depth, a tally of all materials encountered from each 10-cm level, and a brief soil description (texture, consistency, Munsell color, inclusions). The location was recorded using a Garmin, hand-held, GPS unit. Shovel test locations were sketched onto a current aerial of the project area as a backup to the GPS information. Any additional observations considered pertinent were included as comments on the standard shovel test excavation form.

The backhoe trenches excavated during the project were placed perpendicular to the creek bank within the project corridor. Each trench was excavated to a maximum depth of 1.5 m below the surface at the highest point of the bank within the APE. Each trench was approximately 80 cm in width and 2.5 to 3 meters in length. During the trenching, the removed dirt was briefly inspected for cultural material. Select portions of the trench walls were profiled to document the different soil layers at each location. The placements of the backhoe trenches were made at the discretion of the Project Archaeologist and Principal Investigator with the intent of determining if significant cultural deposits were present within the APE.

Laboratory Methods

All cultural material collected during the survey was prepared in accordance with federal regulation 36 CFR Part 79, and THC requirements for State Held-in-Trust collections. Artifacts were processed in the RKEI laboratory where they were washed, air dried, and stored in archival-quality bags. Acid-free labels were placed in all artifact bags. Each label displayed provenience information and a corresponding lot number written in pencil. Additionally, the materials are curated in accordance with current Council of

Texas Archaeologists guidelines. All material found to be modern trash was discarded in accordance with current standards, and a status of “Discarded” was noted on catalogue sheets for these items.

Field notes, field forms, photographs, and field drawings were placed into labeled archival folders and converted into electronic material. Digital photographs were printed on acid-free paper, labeled with archivally appropriate materials, and placed in archival-quality plastic sleeves. All field forms were completed with pencil. Ink-jet produced maps and illustrations were placed in archival quality plastic page protectors to prevent against accidental smearing due to moisture. A copy of the report and all digital material were burned onto a CD and permanently curated with field notes and documents. All project-related documentation was temporally housed at RKEI and is permanently housed at the Center for Archaeological Research at the University of Texas at San Antonio.

Chapter 4: Historic Background and Previous Archaeology

Historic Background

The vicinity of San Pedro Springs was first described during the Espinoza-Olivares-Aguirre expedition in 1709 (Tous 1930). When the expedition members came upon the location on April 13, they noted its ample output of water that emanated from several springs along stepped limestone ridges and provided sufficient water to support an entire town. Governor Alarcón intended that the first of two frontier towns be established at the San Antonio River. The viceroy had ordered that Alarcón send 30 settler families, artisans as well as the missionaries, and soldiers to the new town. The families were to receive land, livestock, supplies, and a salary (Castañeda 1976; de la Teja 1995). However, less than thirty families volunteered to be part of the venture, and the party that was assembled consisted of an engineer, a stone mason, a blacksmith, women, and children (Weddle 1968).

The Alarcón party left Rio Grande del Norte on February 16, 1718. Fr. Pedro de Mezquía, who had been a missionary in Coahuila and accompanied the Alarcón expedition of 1718, kept a diary of the events. According to the Mezquía diary concerning the Alarcón expedition, the group consisted of seventy-two individuals (Hoffman 1938). Three people were described as "religious" and would likely be the padres that would help to establish the new mission in the San Antonio area. The remainder of the party consisted of soldiers and their families, civilians, and mule team leaders. In addition to the people, the expedition also brought sheep, cattle, goats, horses, and chicken into the frontier (Hoffman 1938). Father Olivares had been increasingly impatient as Alarcón assembled the group and performed necessary duties in the Capital. Olivares had left Saltillo at an earlier date but could not leave the San Juan Bautista area as Captain Ramon stalled to give any soldiers to escort his group to San Antonio (Weddle 1968). Olivares was forced to wait until Alarcón arrived at the Presidio. Although Olivares had shown so much impatience, Alarcón made the entry into Texas first, leaving days prior to Olivares. The expedition party arrived near the San Antonio River on April 25, 1718 (Hoffman 1938; Weddle 1968). Mezquía indicated that the party came to the "first spring of San Antonio which is about six leagues distant" (Hoffman 1938). The first spring is believed to be San Pedro Springs. Olivares arrived on May 1.

During the first week at the site, Alarcón went on several excursions to investigate the surrounding land (Hoffman 1938). His group found that there was a good water source from both the springs at San Pedro and the headwaters of the San Antonio River. Mezquía noted that there was enough water "for

maintaining a populous villa and two or three missions" (Hoffman 1938). Alarcón performed the necessary rituals to make claim to the land and allowed Olivares to perform the first mass. Mezquía noted that the location of the new mission "is near the first spring, half a league from a high ground and adjoining a small thicket of live oaks" (Hoffman 1938:318). A provisional hut was constructed by Olivares, to serve as the mission's first location and a place to hold mass (Cox 2005). The establishment of Mission San Antonio de Valero occurred on May 1, 1718 (Habig 1968; 1990; Weddle 1968). The location was to be temporary, being used until the Native inhabitants returned from their seasonal hunting and gathering trips (Cox 2005). Days later on May 5, 1718, Alarcón established the Villa de Béxar approximately 3.7 km (2.3 mi.) from the San Antonio River (Hoffman 1938:318). Mezquía noted that the villa was located between the creek and the river, and the mission was placed at a distance from the villa (Hoffman 1938:318).

In contrast to Mezquía's account, Fr. Francisco de Céliz, a missionary from Coahuila, who served as the official diarist of the expedition, wrote that the site of the first mission was 3.2 km (1.97 mi.) south of the springs, along San Pedro Creek, on the west side of the San Antonio River.

> This site is henceforth destined for the civil settlement and the soldiers to guard it, as well as for the site of the mission of San Antonio de Valero, established by the governor about ¾ of a league down the creek (Hoffman 1935:49).

Céliz wrote that on May 5 Alarcón claimed San Antonio for Spain. The priest had already performed mass, but the remaining rituals were conducted to take possession of the land (Hoffman 1935:49). Shortly after, Alarcón took some men and a chaplain to search for Espíritu Santo (Hoffman 1935:49). The mission stayed at the first location for about a year before being moved to the east bank of the San Antonio River (Habig 1990).

Over the next several years, the mission and presidio were moved until settling on the final locations. The construction of *acequias* began shortly after the Spanish arrival. The first *acequia* stretched between the springs of the San Pedro Creek to the San Antonio River (Cox 2005). The late 18th century Upper Labor *Acequia* also had a tie between the Creek and the River, although the branch of the *acequia* that originated from the San Pedro Creek was located further downstream than the first *acequia*. It appears to have re-entered the San Antonio River at the same location, though (Cox 2005). San Pedro Creek was noted as being an important source of water for the irrigation of croplands and the consumption by the local inhabitants. Between 1718 and 1731, a total of five missions were established

along the San Antonio River in the area. Mission San Antonio de Valero was the first in 1718, although was not moved to its present location until 1724. Mission San José y San Miguel de Aguayo was established in 1721. Three missions from east Texas arrived in San Antonio in 1731: Mission San Juan de Capistrano, Mission Nuestra Señora de la Purísima Concepción de Acuña, and Mission San Francisco de la Espada. The civilian population of the town was increase in 1731 due to the establishing of Villa de San Fernando as a result of a group of Canary Islanders (*Isleños*) being granted a settlement at the order of the Viceroy.

In 1731, with the arrival of the Canary Islanders, the possession of the water from the Creek became a key issue. Although Villa de Bexar had been established with the Presidio and the inhabitants were working the land, the arrival of the Canary Islanders caused an upheaval in the distribution of lands. The first settlers, including some presidio soldiers, had occupied the land north and south of the presidio, clearing for fields, and constructing an *acequia*. The first families had their lands given to the Canary Islanders in 1731 according to the orders of the Viceroy. The first families had not been officially granted the land that they had worked since 1718. In 1733, along with the official land grants given to the *Isleños* of the Villa of San Fernando, the villa was granted 20 percent of the water from San Pedro Creek. The *cabildo* of the Villa then rented out allotments of water to individuals (Porter 2009). The process of holding water rights and allotting time to individuals persisted throughout the mission period with *Isleños* and other private individuals trying to buy up the water rights after the secularization of the missions (Porter 2009).

The project area was part of the Labor de Abajo (Lower Fields) and was irrigated by branches of the *San Pedro Acequia* (**Figure 4-1**). This *acequia* was established in 1732, shortly after the arrival of the *Isleños* (Cox 2005). The *acequia* was functioning by 1835 (Cox 2005). Captain Juan Antonio Pérez de Almazán chose the area south of the Villa de San Fernando, bordered by San Pedro Creek and the San Antonio River until their confluence, as the lands to be divided among the *Isleños* families for their farmland. To obtain water from the creek and the river was difficult, so the *acequia* was laid out to alleviate the problem (Cox 2005). The lands were granted formally to the *Isleños* in 1734.

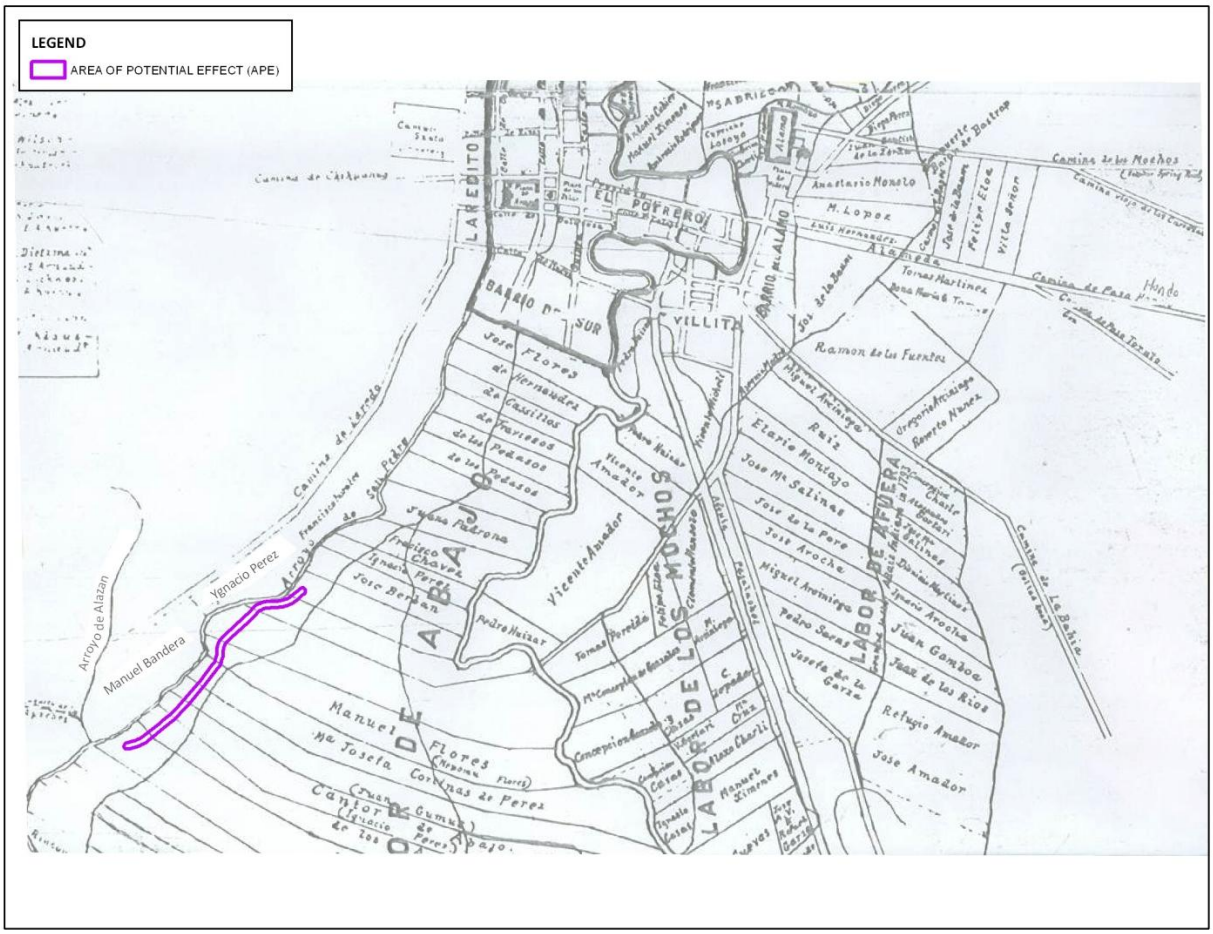

Figure 4-1. Map of Old San Antonio de Bexar as it was in 1837, drawn in 1912 by John D. Rullman.

The shift in the way water was handled in San Antonio occurred in 1852, when the city of San Antonio sold the lots containing the headwaters of the San Antonio River in a public auction to James R. Sweet (Porter 2009). The San Pedro Springs were still under the care of the *cabildo* of the Villa de San Fernando, so not much changed in the system at that location. The selling of the headwaters of the San Antonio River to an individual, though, changed how water was managed for the rest of San Antonio.

Although San Antonio saw much transformation, there was little change over the next several decades on San Pedro Creek. The headwaters of the creek at San Pedro Park saw several incarnations to the layout of the park, but the remainder of the creek remained relatively intact. The *cabildo* oversaw the periodic cleaning and care of San Pedro Creek in accordance with the laws. By the time of the Civil War, reliance on the creek and river for drinking water had shifted, but the creek continued to be used as a means of irrigating crop lands. Later, the use of the water downstream from the springs as drinking

water further cemented the need for alternate drinking water sources. The Creek and the River were natural drainages as well. The drainage into the waterways helped to fuel San Antonio's cholera epidemics.

The plans for alterations to San Pedro Creek were started in 1936, with the City of San Antonio proposing that they be allowed to borrow money and issue bonds for the construction of "permanent levees and walls along and near San Pedro Creek"(CCO Book H Oct. 1, 1936, Ordinance OH-206). Voting in November of that year saw that the proposition did not pass, by less than one hundred votes (Special Meeting of the Commissioners November 13, 1936). Changes to the path of the San Pedro Creek were started to be made in the 1940s. Portions of the channel upstream from the current APE were lined with stone by the WPA (Uecker 1991). An article printed in the *San Antonio Express* circa 1940 gave some details on the amount of work that was to be done:

> Work on San Pedro Creek will include deepening and widening the channel, paving the creek bed, building a retaining wall and removing obstructions. The landscaping project will include planting of trees and shrubs, removing rocks and other obstructions and extended water lines.

During the mid-1950s, the San Antonio River Authority was focusing on alleviating the flooding problems in San Antonio. While the main concern was the San Antonio River, the River Authority also concerned itself with other waterways that were contributing to the flooding problems, including the San Pedro Creek. David Wallace of the River Authority from 1955 to 1965 noted that they deepened and widened San Pedro Creek: "So we went up San Pedro Creek, and we took that up to just below the old Katy Railroad station…" (Freeman 2007). The current path of the creek is not the original. As the need to alleviate the flooding increased, the Creek channel was altered not only by walls and cement bottoms, but also by the route to straighten the meanders.

A review of historic maps associated with the project area reveal how the route of the creek as well as the use of the surrounding land has changed throughout the years. The J. J. Olson map of 1889 shows Alazán and Apache Creeks entering San Pedro Creek at distinct places along the channel of the creek (**Figure 4-2**). Alazán Creek enters San Pedro Creek some 750 feet north of the confluence of Apache Creek and San Pedro Creek. The confluence of the two creeks is depicted on the west bank of San Pedro Creek immediately west of Rehmann Street, which in 1889 terminated in Stark Street which paralleled the channel of San Pedro Creek. In addition, the 1889 J.J. Olson map of the area shows a very

pronounced bend in the creek immediately where the San Antonio and Aransas Pass Rail Road crosses the channel. An island appears to be depicted in the channel of the creek.

Figure 4-2. Portion of JJ Olson Map showing vicinity of the San Pedro Creek, Alazán Creek, and Apache Creek confluences as they were depicted in 1889.

The 1906 New City Block Red Tax Map shows that the confluences of the three creeks are essentially the same as they were in 1889 (**Figure 4-3**). The one dramatic change that is evident, however, is the presence of several major railroad lines and support facilities crossing the east bank of the creek across from the Alazán and Apache Creek confluences. In addition, two of the lines have already begun to shift the alignment of San Pedro Creek just south of Keller Street. Traces of the easements of these lines are visible on modern aerial photos of the project area.

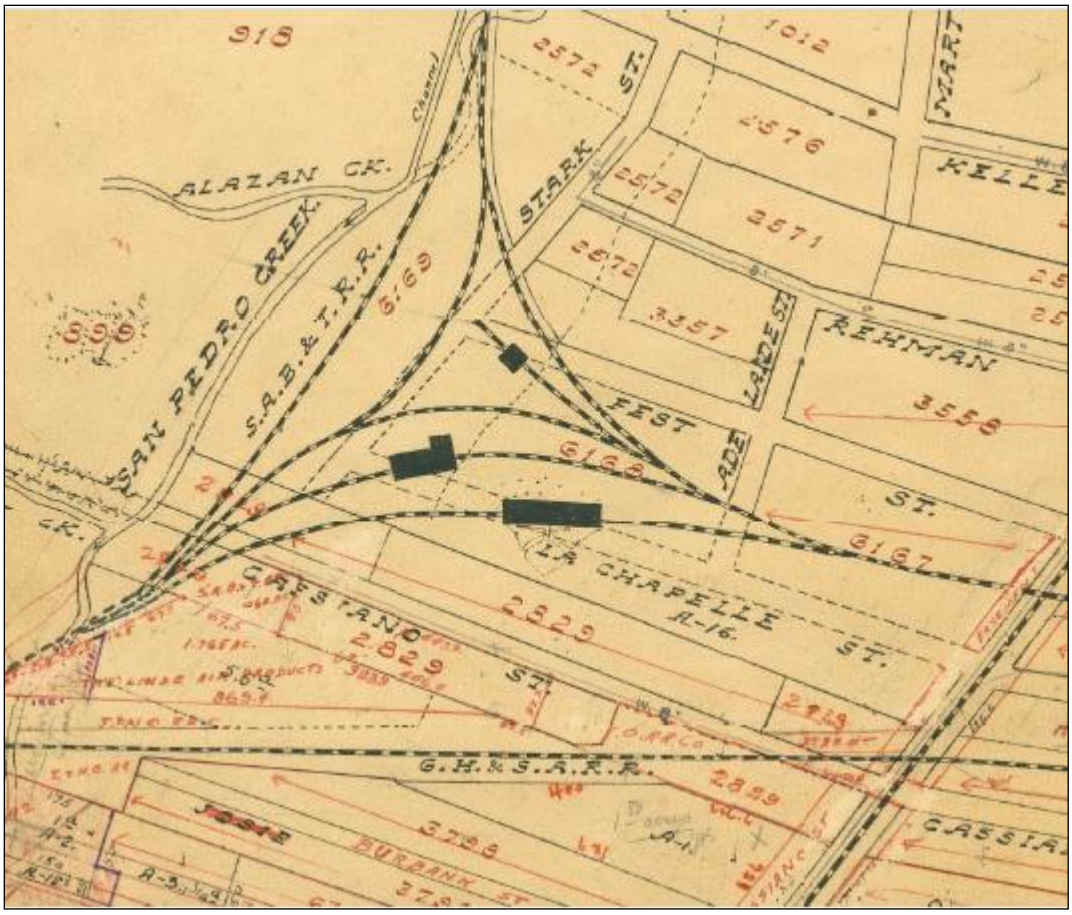

Figure 4-3. The project area as it appeared in 1906.

By 1921, the Ward map shows Alazán Creek flowing into Apache Creek and the two together flowing into San Pedro Creek at the original confluence of Apache and San Pedro creeks (**Figure 4-4**). In addition, the bend in the creek noted just north of W. Cevallos Street is much less pronounced and no island is shown in the channel.

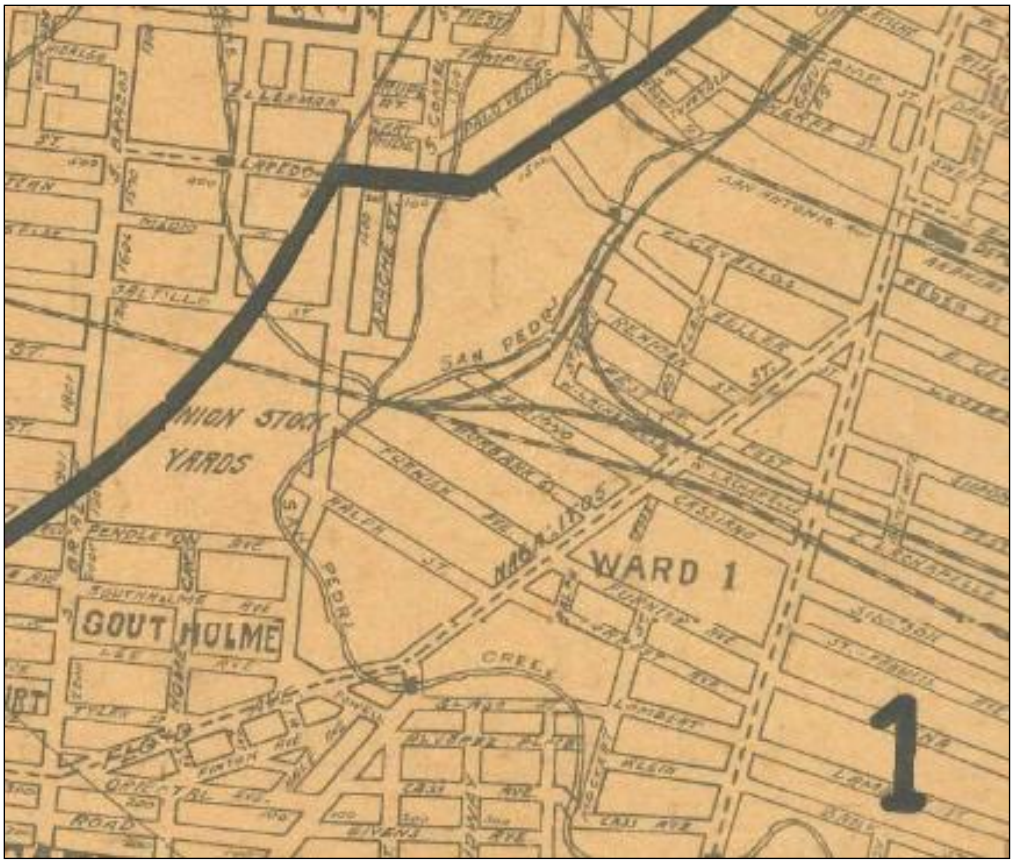

Figure 4-4. Ward 1 map of project vicinity dating to 1921.

A detailed map of the confluence of the three creeks drawn in 1954 shows Alazán Creek entering Apache Creek approximately 300 feet west of the confluence with San Pedro Creek, at the location where Cassiano Avenue meets Saltillo Street on the west bank of San Pedro Creek (**Figure 4-5**). By this time, the portion of the Alazán Creek channel that entered San Pedro Creek is abandoned but the confluence of Apache and San Pedro Creeks has not changed.

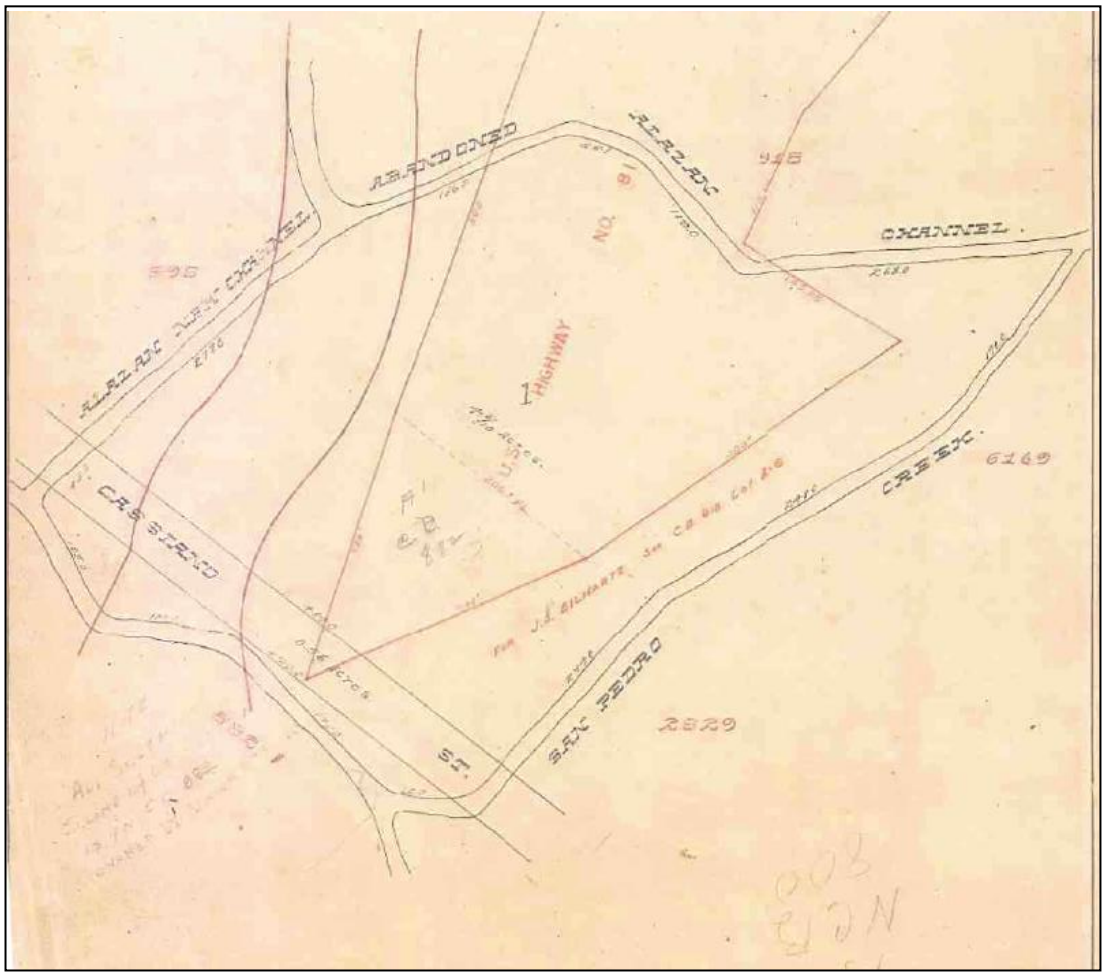

Figure 4-5. A 1954 map of the confluence of Alazán and Apache Creeks. Note the abandoned confluence of Alazán and San Pedro Creeks.

The New City Block Red Tax Map close-up of the project APE dating to 1960 shows the confluence of Alazána and Apache Creeks as well as their confluence with San Pedro Creek (**Figure 4-6**). It appears that the general makeup of the area remained the same between 1954 and 1960. However, sometime after 1960, precipitated by the construction of Pan American Interstate Highway 10, the confluence of the three creeks is modified yet again to achieve its current layout.

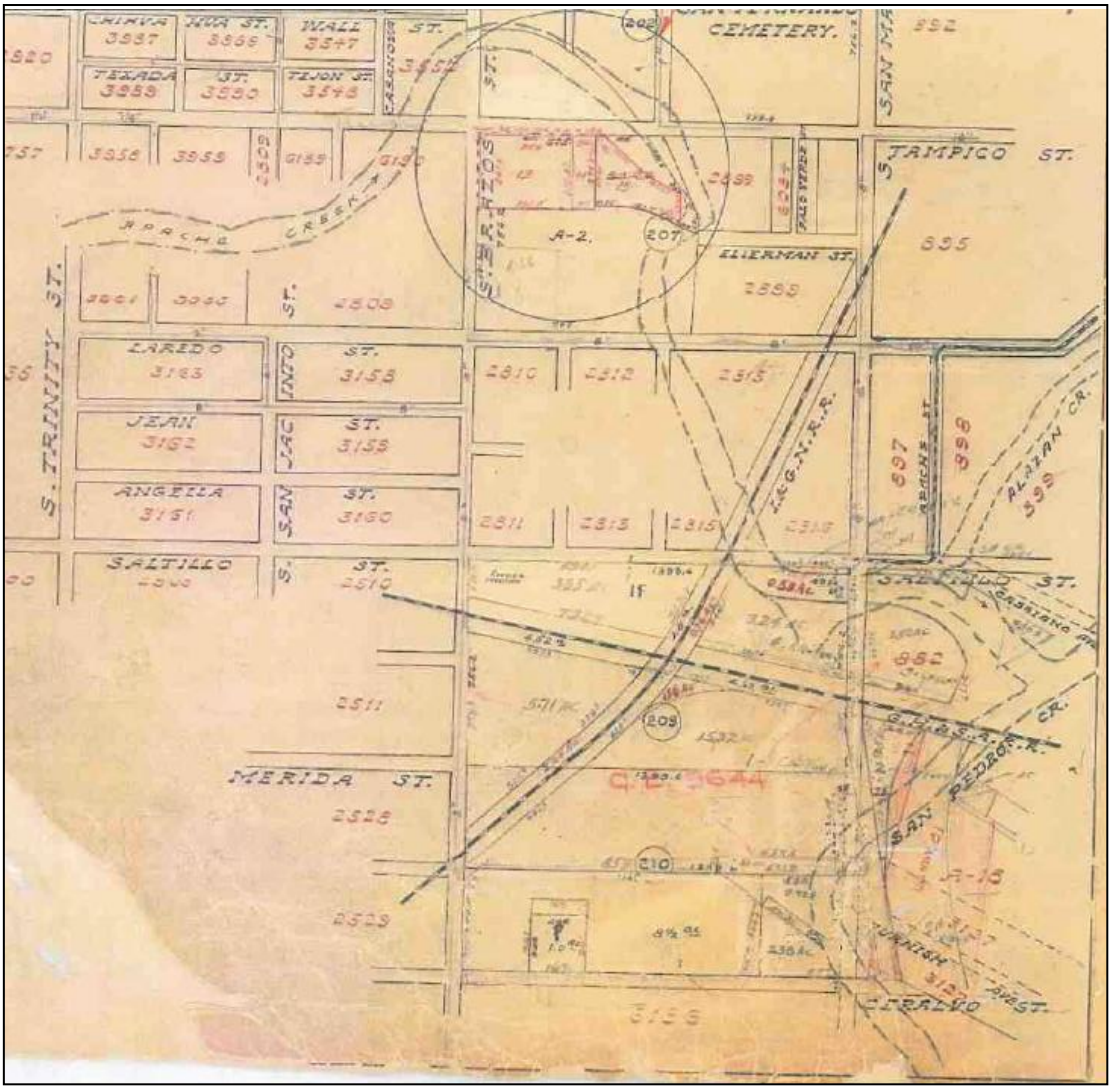

Figure 4-6. The confluence of Apache Creek and San Pedro Creek in 1960.

Taken as a whole, the project area has been the subject of several distinct impacts ranging from channelization along the entire length of the current APE, to changes in the confluence of San Pedro Creek and Apache Creek, and major impacts along the banks of the creek, especially the east bank of the creek immediately east of IH-10.

In addition, the banks of the channelized stream have also been impacted by grading to achieve a gradual slope down to the level of the channel. Therefore, areas immediately adjacent to the stream bottom have been sloped removing large amounts of matrix to allow for greater volume of water to flow downstream in case of heavy rain events. These efforts removed not only soils but any cultural materials that would have been contained within them. The channelization and combined 75-foot

project ROW leaves only a narrow strip of terrace at the top of the bank that may hold intact archaeological deposits. On the other hand, grading along the sloping banks of the creek may have exposed buried archaeological deposits which may be visible or accessible through shovel testing. On the other hand, the various channelization efforts may have also heavily impacted any deposits exposed on the banks of the creek.

Railroads

The first railroad to reach San Antonio didn't arrive until February 19, 1877 (Jennings 1998). The Galveston, Harrisburg & San Antonio railroad was celebrated with many festivities for opening a better way of transportation and connecting San Antonio to New Orleans and San Francisco (Jennings 1998; Hemphill 2006). A city that had a population of 17,000 at the time the railroad arrived jumped to 20,000 in two years and up to 53,000 by 1900 (Hemphill 2006).

San Antonio & Aransas Pass

Within the project area, remnants of tracks were noted on the aerials and on the ground. Historic maps, including the 1896 Sanborn Fire Insurance maps of San Antonio indicate that it was the San Antonio & Aransas Pass Railroad that appears in the project area.

The San Antonio & Aransas Pass Railroad was created in 1884 to create a line to the Corpus Christi ports in efforts to reduce the freight prices. The Galveston, Harrisburg & San Antonio line was more focused on creating cross-continental routes rather than meeting the needs of the communities of Central and South Central Texas; to cheaply and efficiently transfer goods from the coast inland (Hemphill 2006). Construction on the line started on May 18, 1885 overseen by Uriah Lott. The goal at the commencement of construction was to connect San Antonio to Floresville. The original depot was located at the corner of South Alamo Street and South Flores Street (**Figure 4-7**). Service to Floresville began on January 7, 1886. Floresville was paid a sum of $1 for the needed ROW and location of a depot. The town was responsible for constructing the depot within a half mile of the proposed location of the courthouse (Hemphill 2006). The San Antonio & Aransas Pass Railroad arrived in Corpus Christi in October of 1886, eighteen months after starting construction in San Antonio. Over the eighteen months, Lott needed to find a wealthy backer to put up money for the construction. Mifflin Kenedy was enticed by share profits, stocks and bonds to put up his money. Kenedy redirected the methods by which Lott had acquired the ROWs and depot locations. Rather than the company having to pay the town for the property, the towns were charged for the railroad to pass through. Each town was

assessed a certain fee dependent upon population and length of track. The presence of a railroad resulted in increased land values and population growth. One town in particular, Helena, refused to pay the fees. In a twist of events, a local landowner paid the San Antonio & Aransas Pass Railroad to pass through his property instead, effectively cutting off Helena from the route. Helena soon faded away while the towns of Poth and Karnes City flourished as a result of the railroad's new route (Hemphill 2006).

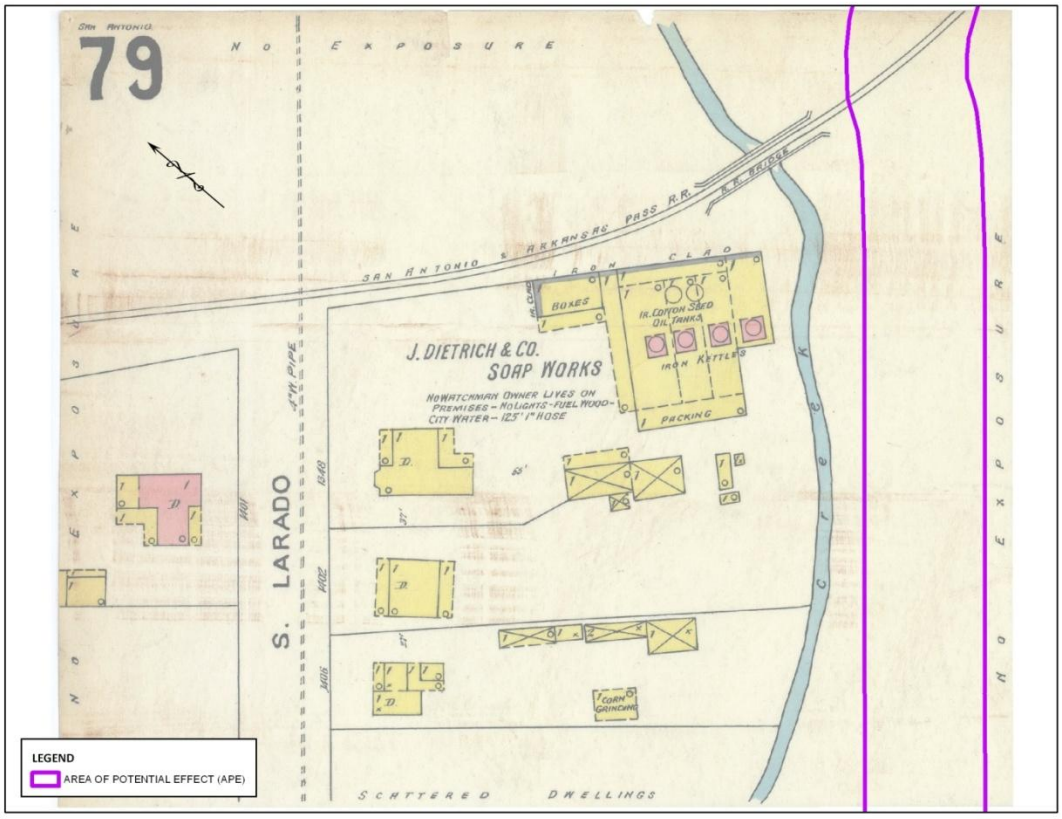

Figure 4-7. The 1896 San Antonio Fire Insurance Map depicting the San Antonio and Aransas Pass Depot.

The San Antonio & Aransas Pass Railroad looked to expand further once the connection was made to Corpus. Sites were set on the Hill County and Houston, with the hopes that these would be extended to the Texas Panhandle and Louisiana. Expansion reached as far as Kerrville and Houston by 1890, with legs to Waco, Rockport, and Alice by 1891. San Antonio & Aransas Pass was dealt a major blow in January of 1890. The bridge over that Lavaca River collapsed as a freight train was crossing. The crew was killed and the train was lost. Families of the victims sued the company for not working on upgrading the infrastructure that was already degrading although it was only several years old. Kenedy approached

the Southern Pacific Railroad in 1892 to offer them the San Antonio & Aransas Pass for sale (Hemphill 2006). Southern Pacific jumped on the offer, but found that due to Texas laws, it had to allow San Antonio & Aransas Pass to work independently. Southern Pacific continued to allow the San Antonio & Aransas Pass to operate on its own, with Southern Pacific overseeing the finances, until 1925 when the Texas Railroad Commission allowed for the full acquisition. The San Antonio & Aransas Pass lines were only used for freight transportation from this point on. Southern Pacific abandoned many of the San Antonio & Aransas Pass line, leaving very few of the original 859 miles of track in place (Hemphill 2006).

It appears that a wooden trestle bridge that was documented within the APE is part of the original San Antonio & Aransas Pass lines that ran to the depot located at South Alamo and South Flores. The trestle bridge can be seen on historic aerials of the area in 1938 (**Figure 4-8**) and a better view in 1959. The bridge is noted on Sanborn Fire Insurance maps that predate 1938. While these documents indicate that a bridge was present at this location for a number of decades, it is unlikely that the current bridge is entirely the same as the one that is shown on the 1938 maps. It is unlikely that a wooden trestle bridge across San Pedro Creek could have survived from 1886 to the present, particularly given the many significant instances of flooding along the creek. The Creosote Council estimates that creosote-treated crossties have an average life span of 35-40 years. According to the typical treatment of infrastructure related to the railroads, the bridge would have been replaced piece by piece as portions were nearing failure (Personal Communication, Hugh Hemphill, Manager of the Texas Transportation Museum, August 2014). The bridge likely exhibits the original design with some alterations, but is no longer of the original material used in 1886. The stringers were replaced in 1962 (Personal Communication, Kevin Louis, August 2014). Although the historical context of the bridge is deemed important, the lack of original materials has diminished the integrity of the bridge. A similar, but larger, bridge is located along the Mission Trails in San Antonio near Roosevelt Ave. The wooden trestle bridge at that location, which had belonged to the MKT Railroad, was considered eligible for listing to the National Register of Historic Places.

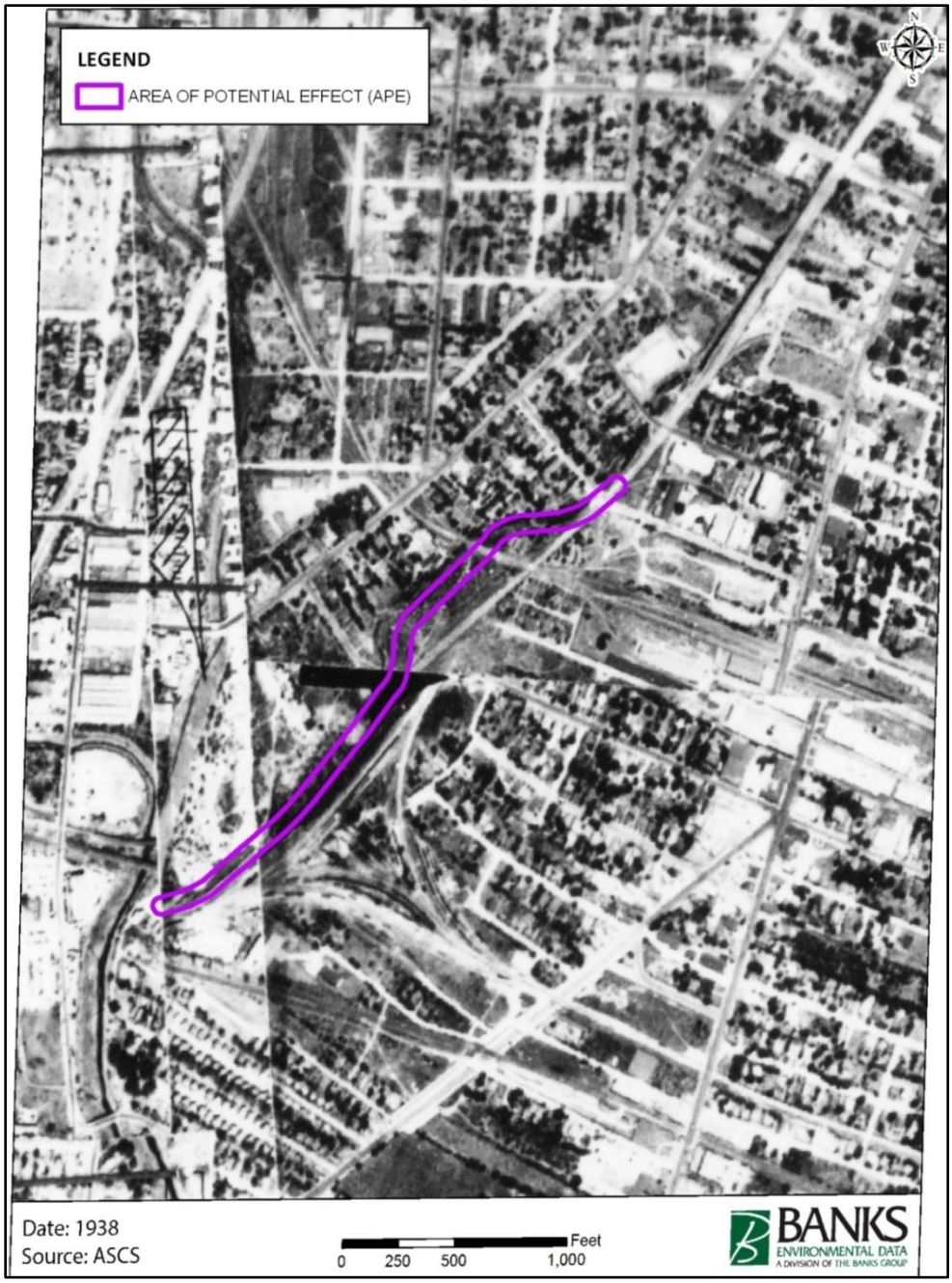

Figure 4-8. The 1938 aerial of the project area.

Missouri-Kansas-Texas

In the southern portion of the APE, scars and remnants of tracks are noted in aerials and on the ground. These belong to the Missouri-Kansas-Texas Railroad (**Figure 4-9**). The Missouri-Kansas-Texas Railroad (MKT), also referred to as Katy Railroad, was established in 1865 in Fort Riley, Kansas (Hemphill 2006).

The MKT was originally called the Union Pacific, Southern Branch that focused on providing transcontinental services throughout the southern states. Texas was included in the plans as the federal government had offered land grants to the first rail company to reach Texas (Hemphill 2006). This offer spurred a race between rail companies to see who could get there first. By 1870, the Union Pacific, Southern Branch changed its name to the Missouri-Kansas-Texas to lessen confusion. The MKT arrived in Texas in 1872, near Denison. The MKT did not receive any of the benefits that had been promised by the government, but it was allowed to operate in Texas without a Texas charter until 1891. In 1880, Jay Gould acquired ownership of the MKT, leasing it to the Missouri Pacific. His overall plans did not rely on the MKT, but it added to the revenues that he could use to finance his dream of another transcontinental line. Gould's tenure was short, but in relationship to the MKT his greatest accomplishment was giving the nickname "Katy" to the line (Hemphill 2006).

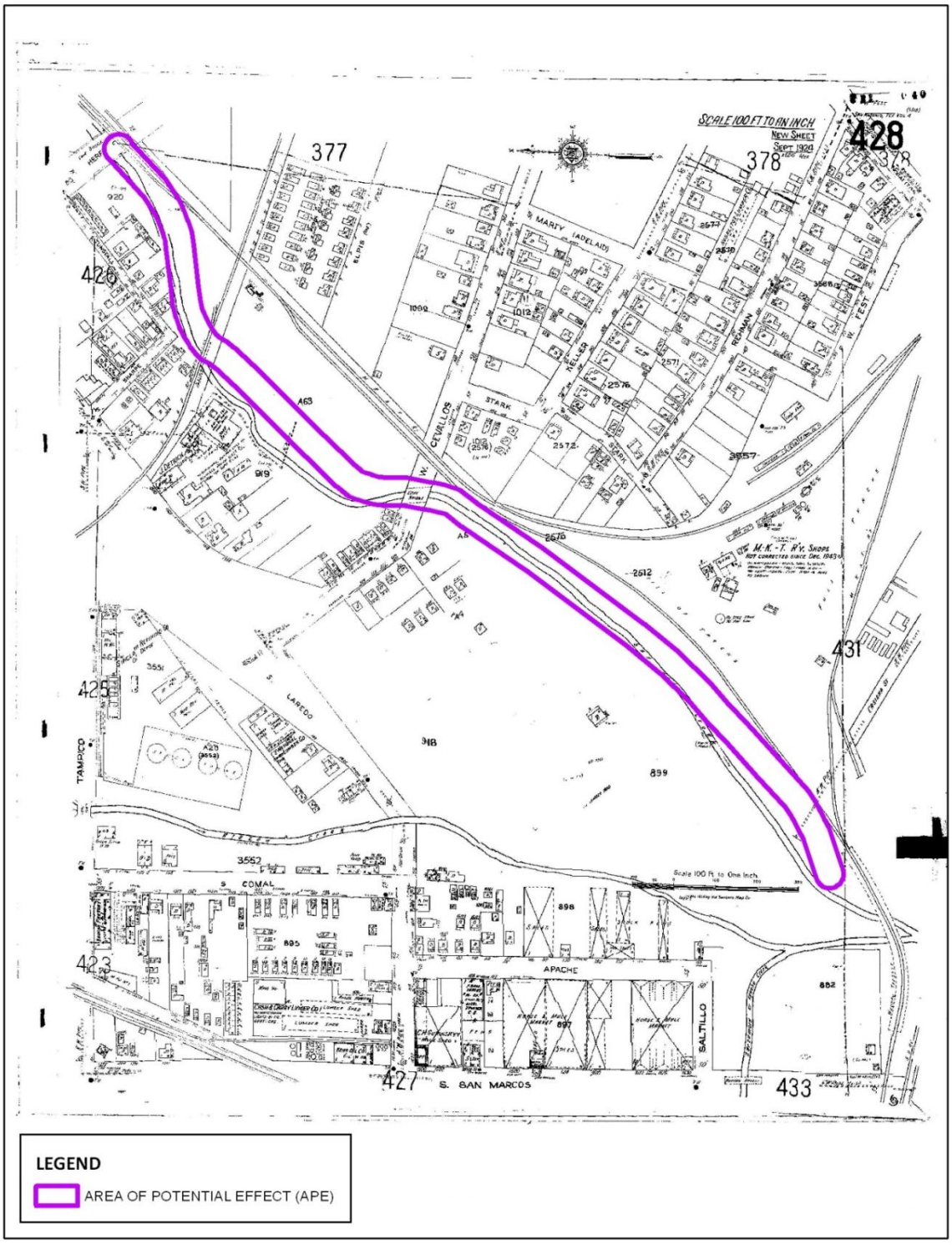

Figure 4-9. The 1912 Sanborn Fire Insurance Map depicting the MKT (Katy) Rail Yard.

Gould attached Katy cars to the International & Great Northern (I&GN) to reach San Antonio. I&GN was another of Gould's investments, so he would lease the San Antonio tracks to MKT. By 1881, MKT had entered the San Antonio market. Gould was ousted from MKT in 1881, which meant that MKT needed to lease tracks from other rail companies such as Southern Pacific. The MKT began construction of their tracks in San Antonio in 1900. The Katy served New Braunfels, San Marcos, San Antonio and Austin on a mix of their own tracks and those leased from other companies. Until 1917, the Katy used the Southern Pacific's Sunset Station as is main depot in San Antonio. Katy had developed into a leading passenger train, extolling its many luxuries of its railcars. In 1912, Katy toyed with the idea of establishing its own station. By 1917, Katy finished it station on Durango Street (Caesar Chavez) between South Flores and South St. Mary's. A freight yard was established near the old San Antonio Stockyards. The Katy depot had a strange configuration. There were no through tracks at the station. Rather, the trains backed into the station. On arrival, the train would pass the station and enter the Nogalitos Road freight yard, the passenger cars would then be backed into the depot. This Nogalitos Road freight yard is what is noted within the project APE (**Figure 4-9**).

The Katy station was in operation from 1917 to 1964. Notable passengers included President Franklin Roosevelt who came to give a speech at the Alamo in 1936 (Hemphill 2006). The station was demolished in 1968. The side door of the station was moved to Los Patios, where it stands today. The freight depot was abandoned in 1986. Today, few tracks can be seen around town, including imbedded in Arsenal Street and on South Alamo Street (Hemphill 2006).

Previous Archaeology

No archaeological investigations have occurred within the boundaries of the APE for this portion of San Pedro Creek. No archaeological sites have been recorded within the project area. The nearest recorded archaeological site is located approximately 0.45 km to the northeast from the north end of the project boundary. Site 41BX794, the John Stewart McDonald House, was identified in 1989 by I. Waynne Cox as part of the *San Pedro Acequia* investigations (THC 2014). The house was leveled in 1905. All that remains is the limestone foundation that dates to 1855 (THC 2014).

The current APE's northern border touches the previous survey along San Pedro Creek conducted by RKEI in 2012 (THC 2014). The cultural resources survey of the project area consisted of visual inspection of the ground surface for cultural materials supplemented with limited shovel testing and mechanical backhoe trenching.

The project area for the 2012 investigation was located along San Pedro Creek from the San Pedro Creek Tunnel continuing south to S. Alamo Street for approximately 7,920 feet (1.50 miles). A total of 28 previously recorded sites and two National Register Districts, the Main and Military Plazas Historic District and the U.S. San Antonio Arsenal National Register District are located within a one kilometer (0.61 mile) radius of the 2012 survey. Three previously recorded sites: the Spanish Governor's Palace and Presidio de Bexar (41BX179), Casa Navarro (41BX302), and the Menger Soap Works (41BX508) extended into the APE (Clark et al. 2013).

A total of four trenches were excavated during 2012 and two of the trenches produced cultural materials. The survey resulted in the expansion of existing site 41BX508, the Menger Soap Works. One hand-laid historic stone cistern was identified from 93 centimeters below surface (cmbs) with numerous artifacts dating from the 1850's to the middle of the twentieth century. The artifacts were recovered between 143-180 cmbs. Site 41BX508 may possess research value and may be eligible for listing in the National Register of Historic Places (NRHP) or eligible for designation as a State Archeological Landmark (SAL) based on its association with the Menger Soap Works National Register Property. Avoidance of 41BX508 was recommended. No further work was recommended at 41BX508 if all subsurface impacts within the site are avoided.

Archeological monitoring of proposed construction activities was recommended to ensure that significant known sites within the APE such as: Menger Soap Works (41BX508), Spanish Governor's Palace and Presidio de Bexar (41BX302), the Casa Navarro (41BX302) (41BX508) are avoided and not adversely impacted during earthmoving activities.

In addition to the archaeological survey, a historic standing structure survey was conducted within the same project area to determine the significance of the historic resources in the vicinity. Similar to the archaeological survey, these sites were recommended for avoidance and considered significant to the cultural landscape of the region.

The discussion of these and other sites outside of a 0.5 km radius of the project area can be found in the archaeological field report (Clark et al. 2013) and the historic standing structure report (Tomka et al. 2013) of the section of San Pedro Creek located to the north of the current APE.

Chapter 5: Results of Investigations

Over the course of three days in June 2014, the RKEI archaeological team conducted a 100 percent intensive pedestrian survey of the APE. The majority of the APE was in the process of being mowed by the City at the time of the survey. By the completion of the survey, all overgrown grasses had been cut, allowing for better visibility during the project. The 70-ft wide corridor of the APE is located on the slopes of the creek bank. The slope ranged from 30 to 45 degrees. A total of 14 shovel tests and three backhoe trenches were excavated during the project (**Figure 5-1**).

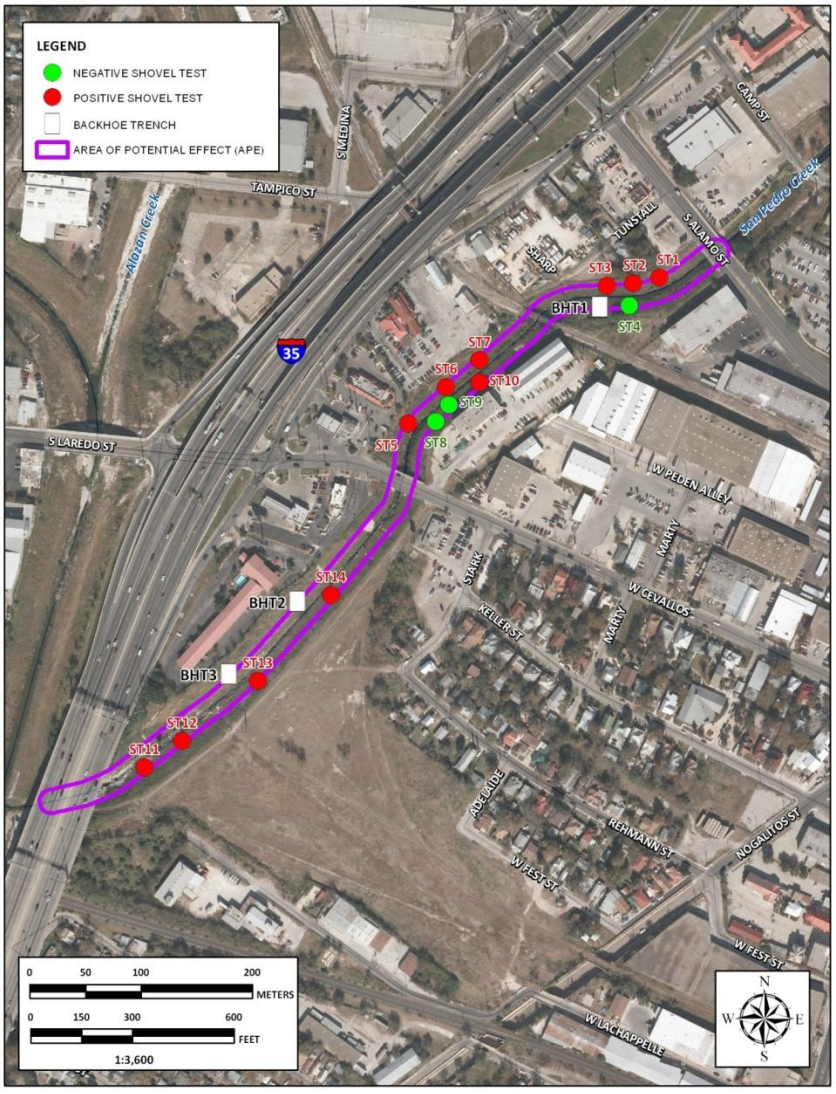

Figure 5-1. Location of the shovel tests and backhoe trenches excavated during the project.

Shovel Tests

The fourteen shovel tests were placed on both banks along the APE in areas that were not going to be tested with backhoe trenching. Access to the property and the degree of slope were factors for determining the location of the backhoe trenches. Areas that the backhoe could enter and excavate without hazard were considered. Four shovel tests were located in the section of the APE located between the South Alamo Street Bridge and the S.A. & A.P. Railroad wooden trestle bridge. Three were located on the west bank and one on the east. Six shovel tests were excavated between the wooden trestle bridge and the W. Cevallos Street Bridge. Three were placed on each side of the bank. The remaining four were excavated on the east bank of the creek between the W. Cevallos Street Bridge and IH-35. Table 5-1 lists the shovel tests and the terminal depths.

Table 5-1. Shovel Tests Excavated During the Project.

ST #	Terminal Depth cmbs	Comment	Artifacts
1	80	Caliche	Y
2	80		Y
3	76	caliche	Y
4	80	Yellow clay	Sterile
5	80		Y
6	46	Large Rock	Y
7	66	Large Rocks	Y
8	44	Large Rock	Sterile
9	80		Sterile
10	46	Large Rocks	Y
11	70	Large Rocks	Y
12	80	Gravel Fill	Y
13	80		Y
14	80		Y

Of the fourteen shovel tests excavated, eleven (79%) produced cultural material. The cultural material encountered consisted mostly of modern trash that has been re-deposited during the many floods of San Pedro Creek. Modern glass fragments, plastics, wrappers, and modern metal were all common items.

Shovel Tests 1 through 4 were excavated along the San Pedro Creek bank between the South Alamo Street Bridge and the wooden trestle bridge for the S.A. & A.P. Railroad. Three of the four shovel tests produced material (Table 5-2). Shovel Test 4 was sterile. The remaining three shovel tests (all located on the west bank) produced a total of 149 artifacts.

The soil of each of the shovel tests in this section of the APE differed greatly. Shovel Test 1 exhibited brown silty clay in the upper 20 cmbs. Level 3 (20-30 cmbs) was a transition zone, with yellowish brown silty clay. The remainder of the shovel test exhibited yellowish brown clay with varying percentages of gravels (10-35 percent). Shovel Test 2, which had the highest density of artifacts, exhibited dark brown silty clay in the upper 50 cm. The soil changed to dark gray silty clay which continued to a depth of 80 cmbs (**Figure 5-2**). Shovel Test 3 also exhibited dark brown silty clay in the upper 30 cm below surface. Level 4 (30-40 cmbs) transitioned to a dark brown silty clay that was moister than the upper levels. At Level 5 (40-50 cmbs) the matrix became brown silty clay with higher clay content than silt. Gravels increased at this level as well. The last two levels (60-76 cmbs) changed to pale brown caliche-like clay with very few gravels. Shovel Test 4 exhibited dark brown silty clay loam in the upper 10 cm. This layer capped yellow mottled clay (**Figure 5-3**).

Figure 5-2. Photograph of Shovel Test 2.

Figure 5-3. Photograph of Shovel Test 4.

Table 5-2. Classes of artifacts recovered from Shovel Tests 1-3.

	Bone	Construction Material	White Earthenware	Glass	Debitage	Metal	Other (Plastic/Slag)	Ceramic Tile	Personal	Grand Total
ST 1 (Total)				**8**	**3**		**2**			**13**
0-10				2	1					3
10-20				3	2					5
20-30				2			1			3
30-40				1			1			2
ST 2 (Total)	**8**	**9**	**7**	**12**		**27**	**44**	**1**	**3**	**111**
20-30		1		1		1	4			7
30-40			1	1		2	11	1	1	17
40-50	2		2	6		5	18			33
50-60	4	2	4	1		5	8		2	26
60-70	1	4		2		7	2			16
70-80	1	2		1		7	1			12
ST 3 (Total)		**2**		**7**		**11**	**5**			**25**
20-30				2		1	1			4
30-40				1		6				7
40-50		2		3		3	3			11
50-60				1		1	1			3
Grand Total	**8**	**11**	**7**	**27**	**3**	**38**	**51**	**1**	**3**	**149**

The majority of the artifacts consisted of glass, metal, and plastic. Shovel Test 2 produced the highest density of artifacts with 111 items collected. Plastic fragments comprised the largest number of the items (n=39) in the "Other" category and were recovered to a depth of 60 cm below surface (cmbs). Between 60 cmbs and 80 cmbs the "Other" category consisted of fragments of slag. Brick, concrete, and a fragment of granite were classified as "Construction Material." Of the seven fragments of ceramic, six were classified as undecorated white earthenware. One was a fragment of transferware. These ceramics have been manufactured over a long period of time, throughout the mid-century and into the 20th century (**Figure 5-4**). Glass fragments were recovered throughout Shovel Test 2. Ten of the twelve fragments were clear container glass. One fragment was clear flat glass and another was a fragment of brown container glass. These glass colors are typically associated with later dates. The personal items consisted of a metal belt buckle, a scarf fragment, and a button. The unidentified metal fragments comprised the largest portion of the metal category (n=16). In Shovel Test 2, one cut nail was recovered in Level 4 (30-40 cmbs). One horseshoe was recovered in Level 7 (60-70 cmbs).

Figure 5-4. Examples of potentially historic artifacts recovered during the survey (l-r: Transferware, buckle, horseshoe, undecorated white earthenware).

The remaining 38 artifacts were recovered from Shovel Tests 1 (n=13) and 3 (n=25). Again, the main categories of artifacts were glass fragments, metal fragments, and plastic. Glass fragments consisted of clear and brown container glass and clear flat glass. Shovel Test 1 produced three small lithic debitage fragments in the upper two levels. The construction material consisted of brick and concrete.

The artifacts that were encountered within this segment of the project area appear to be mostly modern materials with a few older items that may have washed in during flooding episodes (i.e.

debitage, horseshoe, buckle). The artifacts that could potentially date to the late 1800s and early 1900s were mixed with modern material throughout the levels of the Shovel Test. The best example of the mixed context was seen in Shovel Test 2 which had potentially historic material mixed with plastic fragments and/or wire nails in each level. The soil stratigraphy encounter is consistent with disturbed matrix, exhibiting pockets of different colors and textures of soils.

Based on the inspection of historic maps and aerials, this segment of the project area appears to have had some alterations to the path of the creek between 1938 and 1959 (**Figure 5-5; Figure 5-6**). Unfortunately, the precise route of the original channel is difficult to ascertain in the field. By 1963, the route follows that of the present (**Figure 5-7**). The area closest to the trestle bridge appears to have been altered the most by the channelization of the creek.

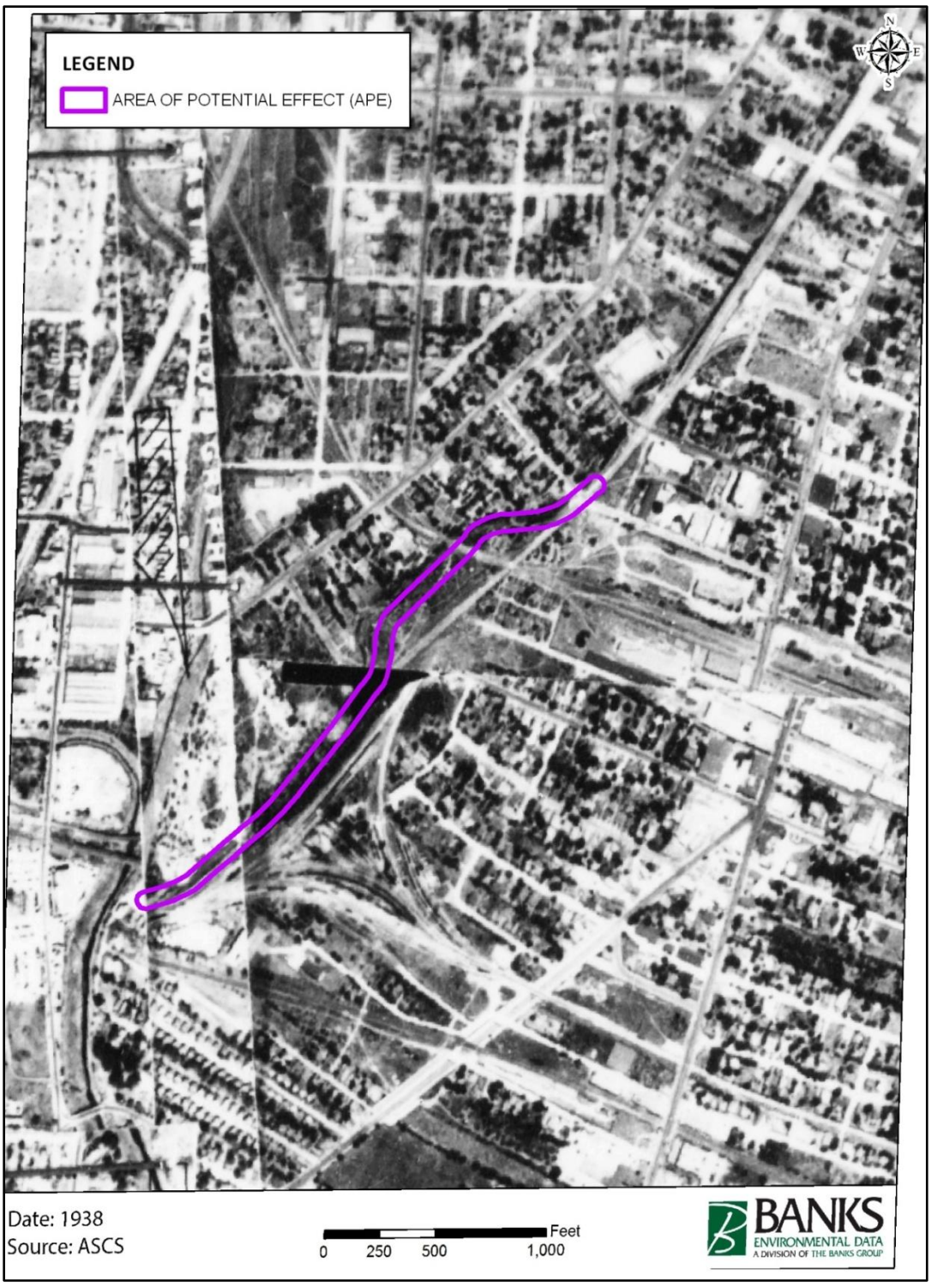

Figure 5-5. The 1938 aerial of the project area, note the route of San Pedro Creek.

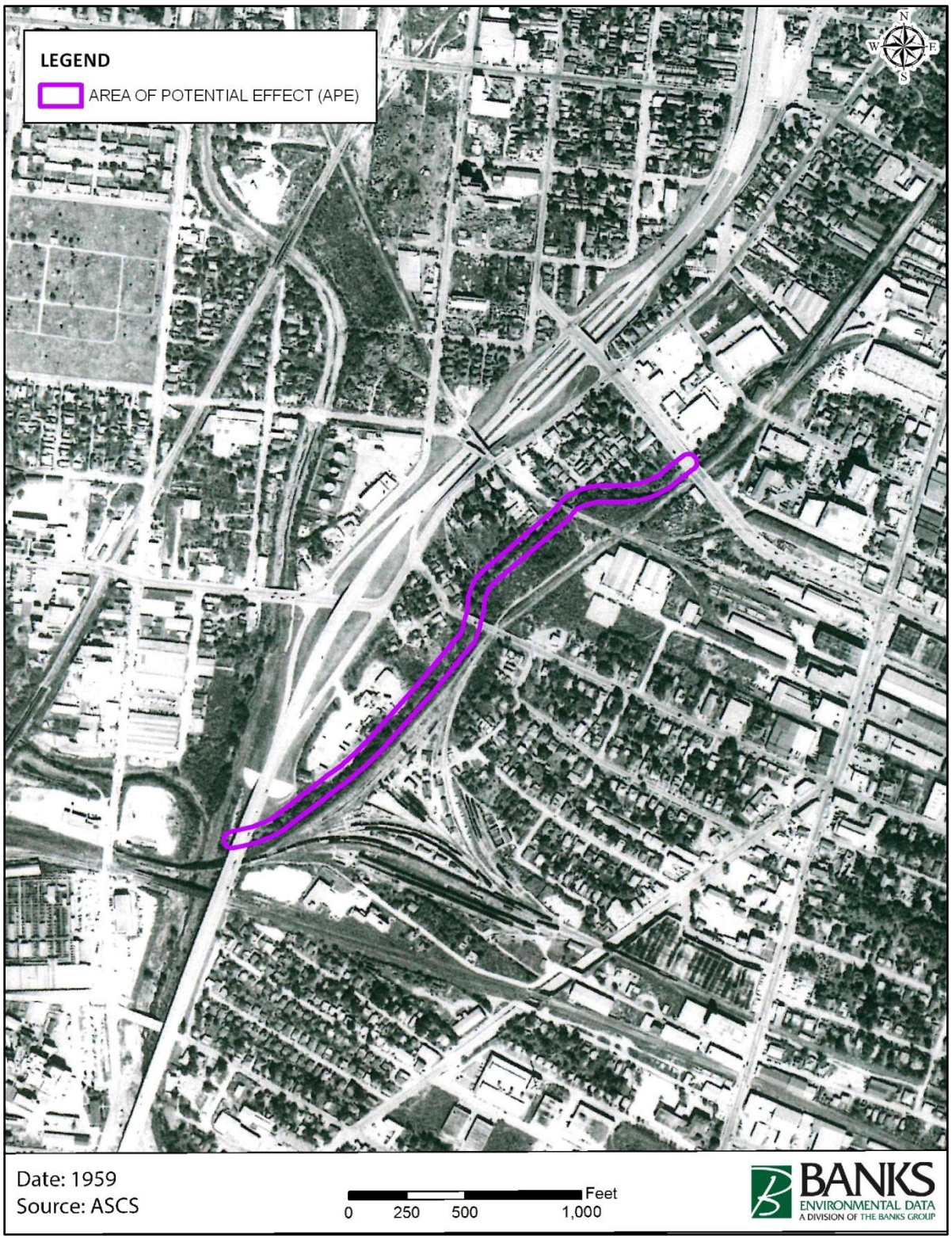

Figure 5-6. The 1959 aerial of the project area with better definition of the creek route.

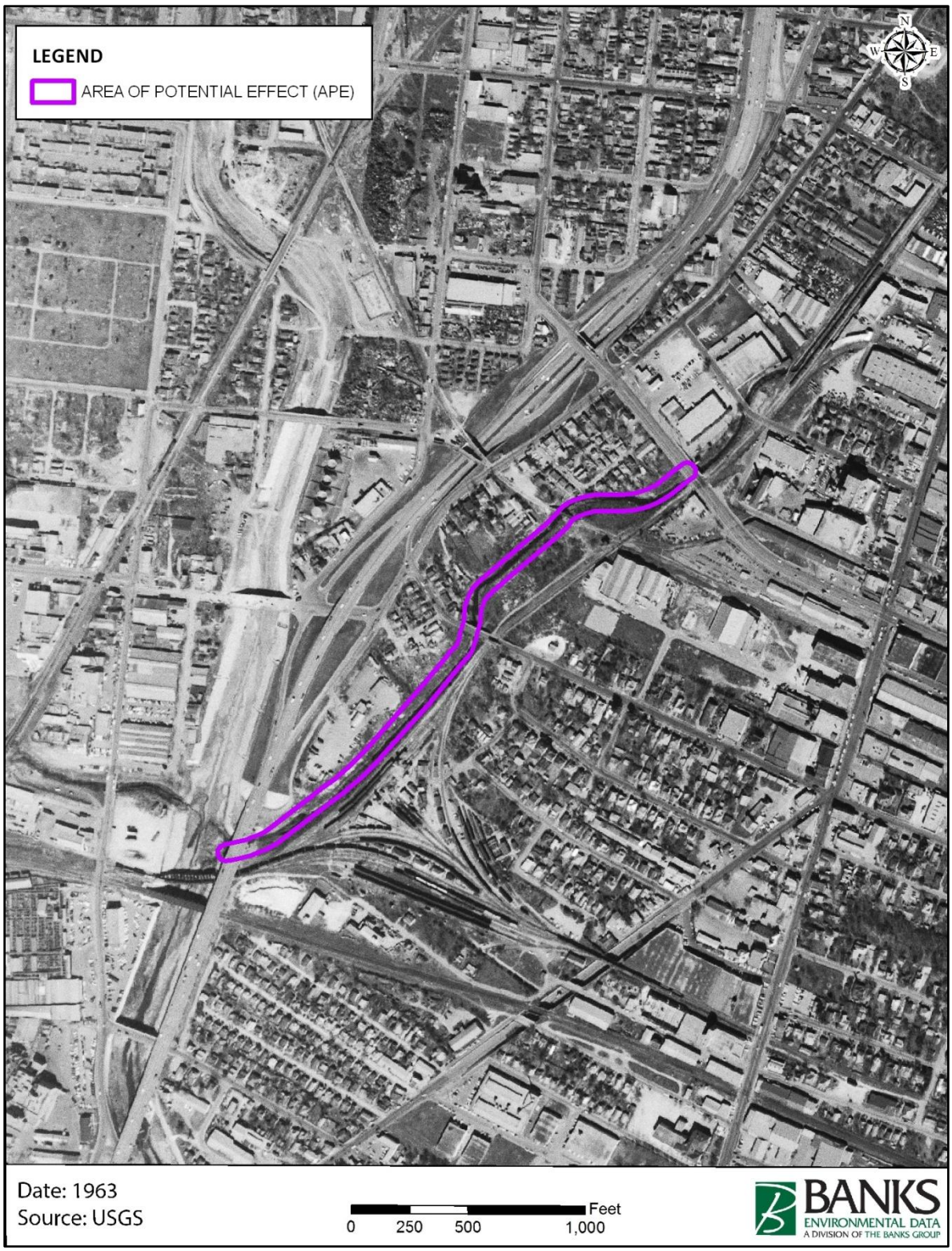

Figure 5-7. The 1963 aerial of the project area with a well-defined path of San Pedro Creek.

Six shovel tests were excavated between the wooden trestle railroad bridge and the W. Cevallos Street Bridge. Three were excavated on each side of the creek bank. Shovel Tests 5 through 7 were excavated on the west side of the creek bank. Shovel Tests 8 through 10 were placed on the east bank. Shovel Test 5 exposed dark grayish brown mottled silty clay with a high clay content throughout the entire test. The soil became wetter towards the base of the shovel test. Shovel Test 6 exhibited dark gray silt in the upper 10 cm. Beneath this layer, the soil changed to dark grayish brown silty clay for approximately 20 cm before changing to dark silty clay extending the base of the shovel test. The test was terminated at 46 cmbs due to the presence of large limestone cobbles (**Figure 5-8**). The shovel test produced a mixed context assortment of artifacts, including construction material (concrete), plastic a wire nails, and glass fragments. The limestone encountered at the base of the test appears to be the common cobbles found along the creek bank. This would indicate that the deposits located above the cobbles are likely related to the flooding of the creek and possess no cultural significance. Shovel Test 7 exhibited dark grayish brown sandy clay in the upper 10 cm. The soil changed to dark grayish brown clay for the next 10 cm, before becoming yellowish brown clay with a few fist-sized chert cobbles. Between 30 cm and 66 cm below surface, the color of the soil changed to brown. The matrix continued to be a clay, but became moister and more sticky the greater the depth. Shovel Test 8, located on the east bank of San Pedro Creek, exhibited light brownish gray silty clay with heavy gravels throughout the extent of the test. Shovel Test 9 was characterized by gray silty clay with large gravels (approximately 5-20 cm in diameter) in the upper 30 cm. Between 30 and 40 cm below surface, the soil became light brownish gray mottled clay with heavy gravels. The transition zone was located in Level 5 (40-50 cmbs) with brownish yellow compact clay. The remainder of the shovel test exhibited light gray mottled clay with gravels (**Figure 5-9**). Shovel Test 10 exhibited different soils with a dark brown silty clay in the first 40 cm below surface. The matrix contained gravels that ranged in sizes of 2-4 cm in diameter. By the end of Level 4 (30-40 cmbs) the gravel content increased to approximately 50 to 60 percent with some mottled clay. In Level 5 (40-46 cmbs) the matrix became highly mottled, dark yellowish brown clay. Large chert cobbles made digging a shovel test near impossible. The shovel test excavation was terminated at 46 cm below surface due to the cobbles.

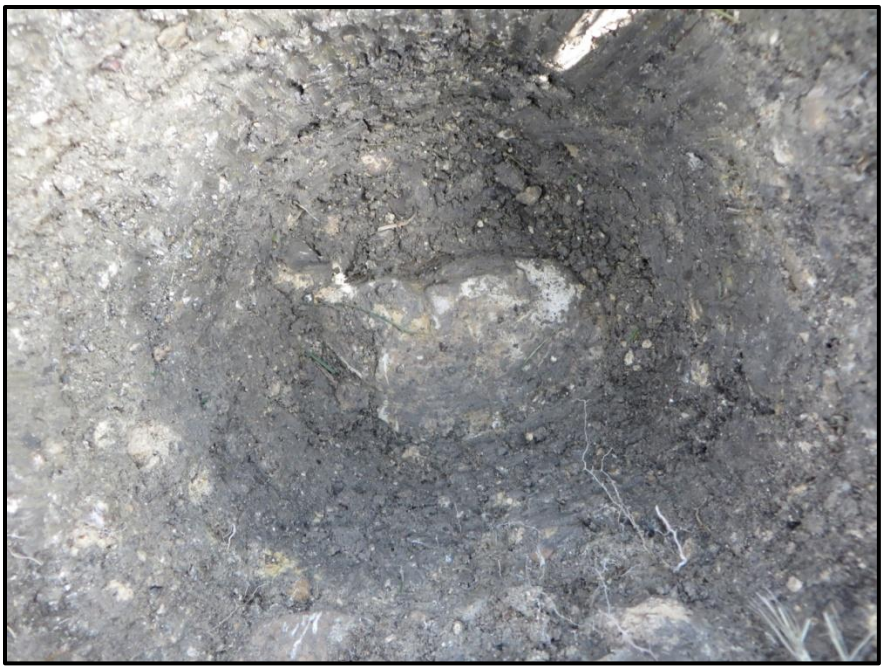

Figure 5-8. Photograph of Shovel Test 6.

Figure 5-9. Photograph of Shovel Test 9.

Table 5-3. Artifacts recovered from Shovel Tests 5-10.

	Construction Material	Glass	Debitage	Wire Nail	Plastic	Grand Total
ST 5 (Total)		**2**				**2**
50-60		1				1
60-70		1				1
ST 6 (Total)	**1**	**3**		**1**	**3**	**8**
20-30		1				1
30-40	1	2		1	3	7
ST 7 (Total)	**2**	**1**				**3**
50-60	2	1				3
ST 10 (Total)		**1**	**1**		**2**	**4**
0-10		1	1		1	3
20-30					1	1
Grand Total	**3**	**7**	**1**	**1**	**5**	**17**

Of the six shovel tests, four encountered cultural material (Table VII-3). Seventeen items were recovered during the excavation of shovel tests within this portion of the project area. Bricks and concrete fragments make up the "Construction Material" category. Glass encountered consisted of clear and brown container glass fragments and clear flat glass fragments. These varieties do little to give a precise temporal affiliation and are typically associated with modern times. One wire nail was recovered in Shovel Test 6. Wire nails are common in the area circa 1890s to the present. Wire nails became the popular variety after the 1910s, comprising approximately 90 percent of the nails made (Visser 1997). The shovel tests excavated in this segment of the project area lacked significant cultural materials.

Similar to the northern segment, this portion of the project area appears to have undergone channelization by 1963 (**Figure 5-7**). The 1938 and 1958 aerials show the banks as overgrown and not defined in this section (**Figures 5-5 and 5-6**). The 1963 aerial reveals that the banks already had their present day configuration.

Four shovel tests were excavated between the W. Cevallos Street Bridge and the bridge for IH-35. These four shovel tests were located on the east bank of San Pedro Creek. The shovel tests in this segment appeared to exhibit similar soils. The shovel tests had dark gray to very dark gray silty clay throughout most of the levels. Due to rain the night before these shovel tests were excavated, the soils were moist and the clay was plastic. Shovel Test 12 was the only one that appeared to have a dramatic difference. Shovel Test 12 became mottled in Level 7 (60-70 cmbs) and began to pick up some gravel at

approximately 65 cmbs. In Level 8 (70-80 cmbs), the matrix consisted of 100 percent gravels (**Figure 5-10**). This gravel layer was not encountered in the other shovel tests.

Figure 5-10. Shovel Test 12 exhibiting the gravels encountered.

A total of 155 artifacts were recovered from the four shovel tests. Table 5-4 presents the material encountered in the shovel tests.

Table 5-4. Artifacts from Shovel Tests 11-14.

	Undecorated White Earthenware	Glass	Debitage	Metal	Other	Shell	Coal	Grand Total
ST 11 (Total)		**13**		**1**	**3**			**17**
0-10		11			3			14
10-20		2		1				3
ST 12 (Total)	**1**	**95**	**2**	**12**	**13**	**1**	**2**	**126**
0-10		2		1			1	4
10-20	1	34	2	3	3			43
20-30		50		5	8	1	1	66
30-40		9		3	2			14
ST 13 (Total)		**1**			**6**			**7**
20-30		1			6			7
ST 14 (Total)	**1**	**2**			**2**			**5**
0-10		2			2			4
10-20	1							1
Grand Total	**2**	**111**	**2**	**13**	**24**	**1**	**2**	**155**

One sherd of undecorated white earthenware was recovered in Shovel Test 12 and one in Shovel Test 14. Due to the lack of decorations to the sherds, dating of the pieces was difficult. White earthenware is present in San Antonio as early as the early 19th century to present times. Two fragments of debitage were encountered in the upper levels of Shovel Test 12. The metal items recovered consisted mainly of unidentified fragments (n=8). One wire nail, one bolt, and one bottle cap were also recovered. These items were recovered in Shovel Test 12 between 20 and 40 cm below surface. The one item recovered in Shovel Test 11 was a piece of aluminum foil. Shovel Test 12 also produced a battery terminal at 10-20 cmbs, and a carbon battery core at 20-30 cmbs. The remainder of the "Other" category for Shovel Test 12 consisted of plastic fragments and pieces of slag (n=8). In Shovel Test 11, the "Other" category consisted of plastic and slag. Shovel Test 13 produced slag fragments but no plastic.

Glass fragments comprised the largest category of artifacts recovered within this segment of the project area with 110 pieces (Table 5-5).

Table 5-5. Glass recovered from Shovel Tests 11-14.

	Container/Vessel				Flat		Grand Total
	Aqua	Brown	Clear	Green	Aqua	Clear	
ST 11 (Total)		**12**	**1**				**13**
0-10		10	1				11
10-20		2					2
ST 12 (Total)	**1**	**20**	**22**	**5**	**3**	**44**	**95**
0-10						2	2
10-20		7	9	5	1	12	34
20-30	1	10	10		2	27	50
30-40		3	3			3	9
ST 13 (Total)			**1**				**1**
20-30			1				1
ST 14 (Total)			**1**				**1**
0-10			1				1
Grand Total	**1**	**32**	**25**	**5**	**3**	**44**	**110**

The majority of the glass fragments recovered from this segment of the project area were clear and brown. Unlike the other segments, a few fragments of aqua glass were recovered, although three of the four fragments are aqua flat glass which is associated with modern safety glass found in car windows.

Two pieces of coal were recovered from the shovel tests along the east bank of the creek. This is of particular interest because the coal may be related to the railroad yard that was located on the adjacent property. The use of steam engines that utilized coal saw a decline as of the 1930s. There is a chance that the coal may be related to that use, but due to the shallow deposition of the fragments (0-10 and

20-30 cmbs) it also may be related to the transportation of coal to the local energy plants (J.K. Spruce 1 and 2, and Deely) that provide a portion of energy consumed in Bexar County (CPS 2014).

Historic aerials indicate that this portion of the creek appears least altered by the mid-20th century. The 1911-1951 Sanborn Fire Insurance Map also supports this inference (**Figure 5-11**). The section may have had graded banks, but the path of the creek appears to be relatively unaltered.

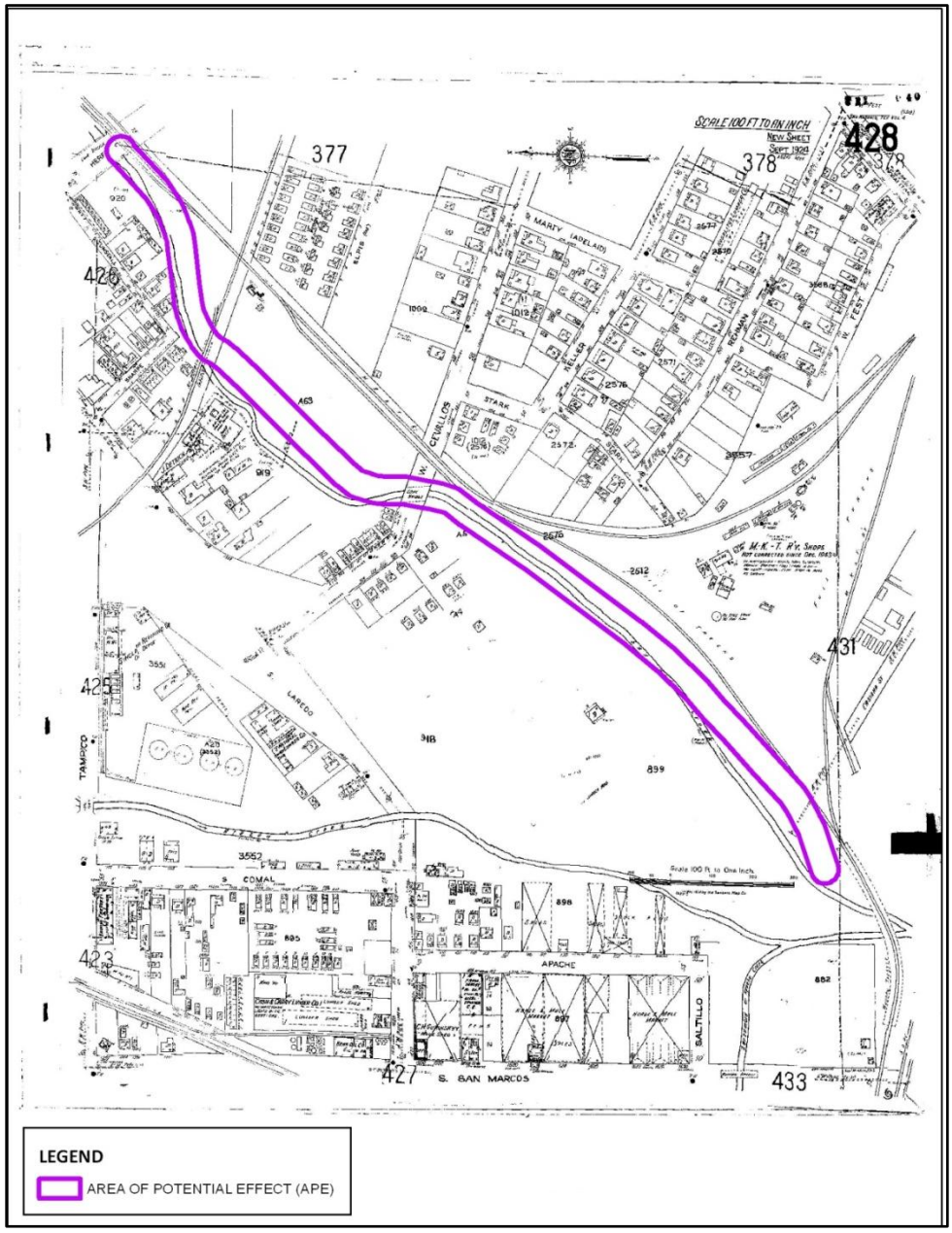

Figure 5-11. The 1911-1951 Sanborn Fire Insurance Map.

Backhoe Trenches

Three backhoe trenches were excavated within the APE. One was located on the east bank of San Pedro Creek, south of the South Alamo Street Bridge and just north of the S.A. & A.P. wooden trestle bridge. This trench, BHT 1, was excavated to a maximum depth of 1.5 meters below the surface. Due to the slope in the creek bank, the western edge of the trench was approximately 1.3 meters below the surface (**Figure 5-12**). The upper stratum consisted of dark brown silty clay that contained grass roots and modern trash. The soil was fine-grained, with higher silt content than clay. This stratum varied from approximately 5 to 15 cm in thickness. Below the first stratum, the next 10 to 20 cm consisted of yellowish brown silty clay with approximately 15 percent gravels. The soil texture had higher clay content than silt. A layer of light gray soil mixed with gravels was located approximately 35 cm below the surface. The stratum consisted of approximately 85 percent gravels. The remainder of the trench profile indicated that the soil was yellowish brown clay with between 80 and 90 percent gravels. No cultural material was noted in BHT 1 after 10 cm below the surface. The material noted in the backdirt was modern trash. The yellowish brown soil did not exhibit any cultural material.

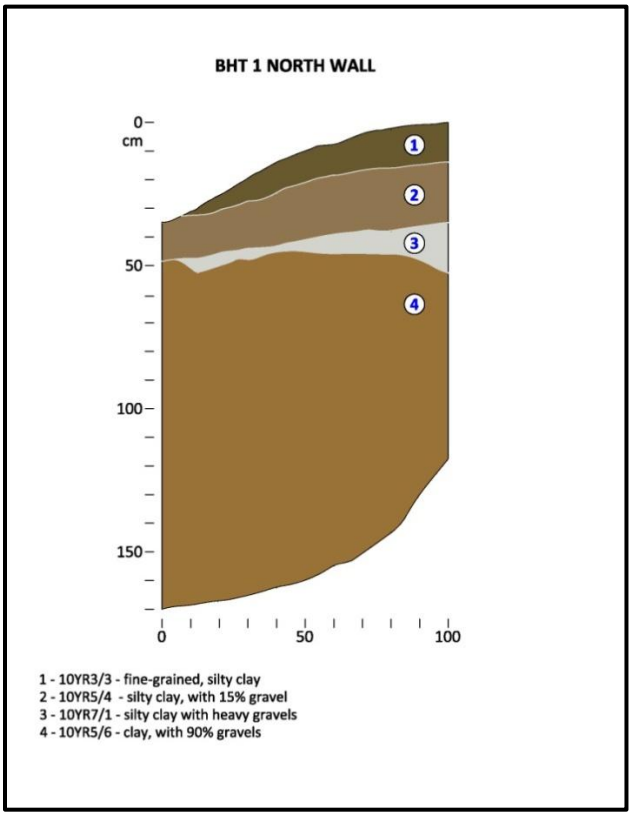

Figure 5-12. North wall profile of BHT 1.

Backhoe Trench 2 (BHT 2) was located along the west bank of San Pedro Creek south of the W. Cevallos Bridge. The trench was excavated perpendicular to the creek. The maximum depth was 1.5 meters, although due to the slope of the bank, the eastern portion of the trench was approximately 1.4 meters below the surface (**Figure 5-13**). The strata noted in BHT 2 were very different from that in BHT 1. The upper 5 to 20 cm consisted of dark grayish brown silty clay with small gravels and grass roots. The materials noted in this stratum consisted of modern trash such as plastic, wrappers, and glass fragments. The second stratum consisted of brown silty clay, although the soil had higher clay content. Very few gravels were noted. Stratum 3 was a slightly different brown silty clay soil with approximately 40 to 50 percent gravels. Charcoal flecks were noted in the matrix. Below the clay of Stratum 3, Stratum 4 was a gravel lens with little soil. The layer consisted of approximately 80 percent gravels that were 4 to 5 cm in diameter. Beneath the gravel lens was blocky, brown clay that exhibited some carbonate streaking. A thicker gravel lens was observed below the clay. This lens was approximately 25 cm in thickness. The layer consisted of approximately 85 to 90 percent gravels that ranged in size from 1 to 10 cm in diameter. Another clay layer was present below the gravels. This layer consisted of blocky, brown sandy clay. This layer was approximately 10 to 20 cm in thickness. The eastern portion of the trench picked up the top of another gravel lens at the base of the trench. No cultural material was noted within the backdirt or the trench walls below the upper 5 to 20 cm below surface.

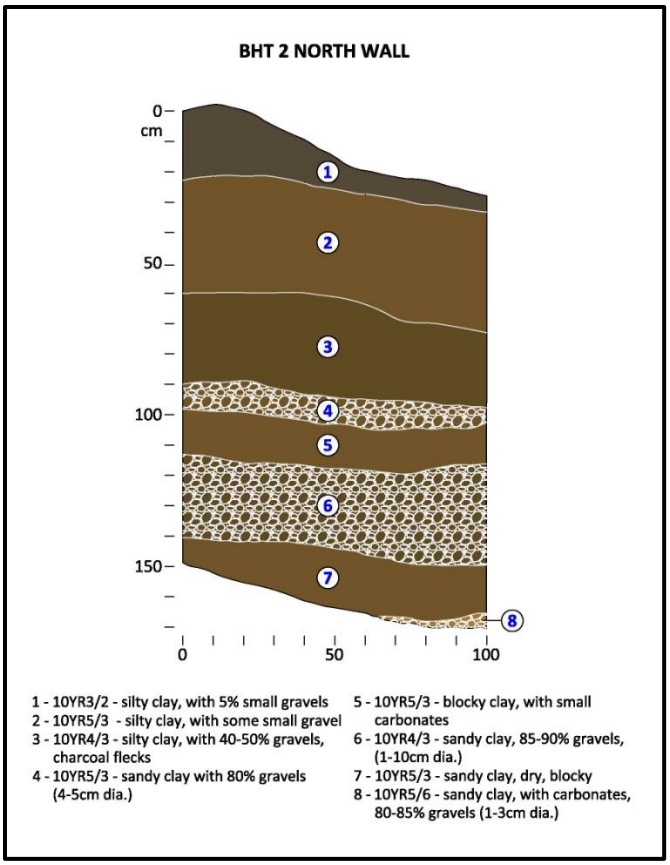

Figure 5-13. North wall profile of BHT 2.

Backhoe Trench 3 (BHT 3) was located along the western bank of San Pedro Creek, north of the IH-35 bridge. The stratigraphy of BHT 3 was very different from that noted in BHT 1 or BHT 2 below the upper silty clay that contained grass roots and modern trash (**Figure 5-14**). Below the upper sediment, the soil becomes dark grayish brown silty clay. Within in the upper portion of this stratum clear glass fragments and an aqua bottle base were noted. These items were not collected as they appeared to be modern, machine made glass fragments. The layer was approximately 50 cm thick. Below Stratum 2 and extending to the base of the trench at 1.5 meters below the surface, the soil was gray blocky silty clay. The matrix contained snail shell fragments throughout the stratum. Pockets of increased concentrations of snail shell were noted. The trench walls appeared to have calcium carbonate streaks due to the amount of snail shell. No cultural material was noted in this layer.

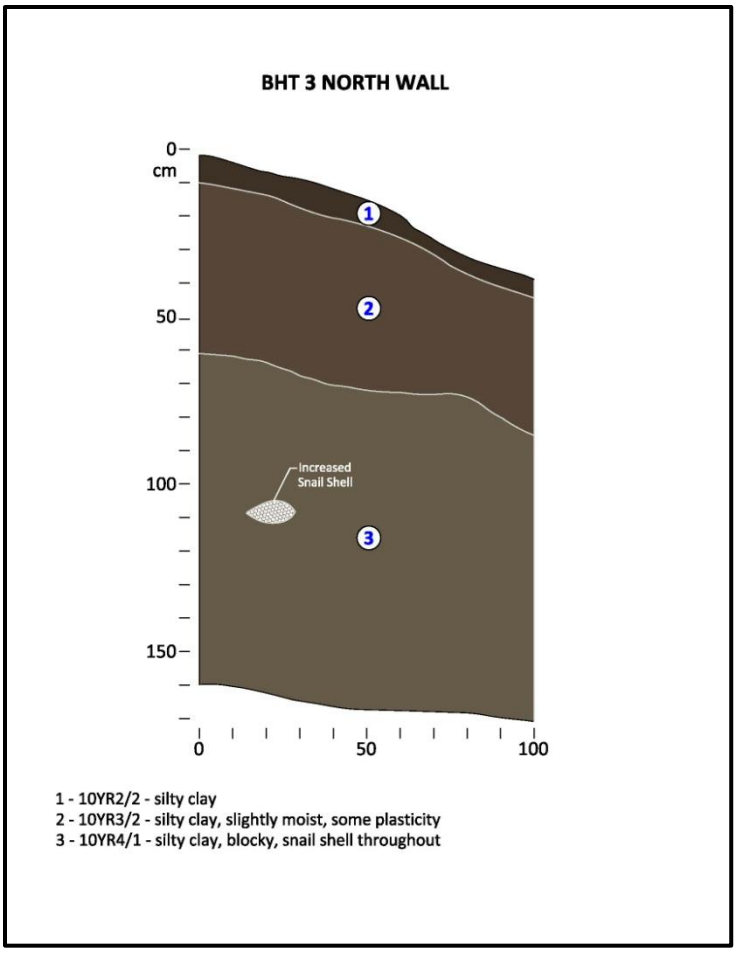

Figure 5-14. North wall profile of BHT 3.

Chapter 6: Summary and Recommendations

The intensive survey of the Lower Reach Segment of San Pedro Creek consisted of a 100 percent pedestrian survey, and the excavation of fourteen shovel tests and three backhoe trenches. The pedestrian survey did not encounter any significant artifacts or cultural material deposits on the surface throughout the APE. The material noted on the surface consisted of modern trash likely washed into the creek banks and bed during rains. The shovel test encountered mostly modern material. A total of 304 artifacts were recovered during the shovel testing. The backhoe trenching did not encounter any significant archaeological deposits. Very few artifacts were noted during the excavation of the backhoe trenches and those that were encountered were located in the upper layer of soil associated with modern debris.

The section of the APE located between South Alamo Street Bridge and the wooden trestle railroad bridge appears to lack significant cultural deposits. Four shovel tests and one backhoe trench were excavated within this segment. The east bank of the creek appears to have a uniform soil type that lacks cultural material beneath the upper, humus-rich, silty clay loam. Shovel Test 4 and Backhoe Trench 1 exhibited similar soil distribution of the yellowish brown silty clay beneath the dark brown clay loam. No artifacts were encountered in either subsurface excavation. Along the west bank, the soil differed in each of the three shovel tests. Shovel Test 2 appears to have encountered a pocket of cultural material, but historic material was mixed with modern plastic and glass.

The segment of the project area between the trestle bridge and the W. Cevallos Street Bridge had six shovel tests excavated during the course of the project. These shovel tests produced little material, much of which can be attributed to modern trash. The soils encountered within the section exhibited variation from shovel test to shovel test. The historic maps and aerials indicate that this section of the project area was altered during the channelization of the creek.

Between the W. Cevallos Street Bridge and IH-35, a total of four shovel tests and two backhoe trenches were excavated. The east bank revealed fairly uniform soils with material within the shovel tests that may relate to the MKT Rail Yard located on the adjacent property. Shovel Test 12 encountered solid gravels at approximately 65 cm below surface that may be related to the grading of the creek bank. Along the west bank, the backhoe trenches revealed different soil distributions along the bank. BHT 2, located closer to W. Cevallos Street Bridge revealed brown soils with gravel lenses alternating with silty

clay soil layers. BHT 3 exposed fairly uniform dark grayish brown soils with increasing amounts of snail shell as excavations continued past 1 meter below surface. It is likely that the matrix encountered in this backhoe trench represents the original soils from the creek channel. No significant cultural material was encountered in either of the backhoe trenches in this segment.

No significant cultural deposits were encountered during the course of the project. Flooding episodes have deposited material and sediments along the banks over the years. The shovel testing and backhoe trenching reveal extensive disturbances along the creek bank due to channelization and industrial activities that bordered San Pedro Creek. Shovel tests indicated that potentially historic material was mixed with modern trash. Based on the findings during the investigation, it is unlikely that restoration activities along San Pedro Creek within the segment between the South Alamo Street Bridge and the Apache/Alazán Creek confluence will impact significant cultural deposits. However, because the actual extent of impacts, their specific locations, their depth and their spatial extent is not known at this time, it is recommended that if extensive below ground excavations are needed to accomplish the goals of the project, archaeological monitors should be used during construction. San Pedro Creek has played a significant role in both the prehistoric and historic occupation of the area. Significant cultural deposits still may be encountered during construction activities even though they were not during the course of this project. Therefore, RKEI recommends that construction monitoring be conducted during the project to insure that significant deposits, if present, are identified early and are investigated prior to destruction. Monitoring should take place any time subsurface disturbances exceed 3-feet below the modern surface.

References Cited:

Almaraz, F.D. Jr
1989 *The San Antonio Missions and Their System of Land Tenure.* University of Texas Press. Austin, Texas.

Castañeda, C. E.
1976 *Our Catholic Heritage in Texas, 1519-1936*. Vol. II. Arno Press, New York.

CCO (City Council Ordinance)
Electronic documents, http://www.sanantonio.gov/clerk/ArchiveSearch/AdvancedSearch.aspx. Accessed June 2014.

Clark, P., C. Murray, and S.S. Victor
2013 *A Cultural Resources Survey of the Proposed San Pedro Creek Restoration Project San Antonio, Bexar County, Texas*. Raba Kistner Environmental, Inc. San Antonio, Texas.

Cox, I.W.
2005 *The Spanish Acequias of San Antonio*. Maverick Publishing Company. San Antonio, Texas.

CPS
2014 The History of CPS Energy. CPS Energy Website. http://www.cpsenergy.com/About_CPS_Energy/Who_We_Are/History/History_of_CPS_Energy.asp. Accessed June 2014.

De la Teja, J.F
1995 *San Antonio de Bexar: A Community on New Spain's Northern Frontier*. University of New Mexico Press, Albuquerque.

Freeman, M.D.
2007 Oral History Interview with David Wallace. San Antonio River Authority. July 18, 2007. San Antonio, Texas. On file at the University of Texas at San Antonio Library. (Accessed June 2014 http://cdm16018.contentdm.oclc.org/cdm/ref/collection/p16018coll4/id/115)

Habig, M.A.
1968 *The Alamo Chain of Missions: A History of San Antonio's Five Oldest Mission*. Franciscan Herald Press, Chicago.
1990 *Spanish Texas Pilgrimage*. Franciscan Herald Press, Chicago.

Hemphill, H
2006 *The Railroads of San Antonio and South Central Texas*. Maverick Publishing Company. San Antonio, Texas.

Hoffman, F.L.
1935 *Diary of the Alarcón Expedition into Texas, 1718-1719 by Francisco Céliz*. Vol. 5. Quivira Society Publications. Los Angeles, California.
1938 The Mezquía Diary of the Alarcón Expedition into Texas, 1718. *Southwestern Historical Quarterly* 41:312-323.

Jennings, F.W.
1998 *San Antonio, The Story of an Enchanted City*. The San Antonio Express-News. San Antonio, Texas.

Porter, C.R. Jr.
2009 *Spanish Water, Anglo Water: Early Development in San Antonio*. Texas A&M University Press. College Station.

Taylor, F.B., R.B. Hailey, and D.L. Richmond
1991 *Soil Survey of Bexar County, Texas*. U.S. Department of Agriculture Soil Conservation Service. The Soil Conservation Service, Washington, D.C.

Texas Historical Commission (THC)
2014 *Texas Archaeological Sites Atlas*. http://nueces.thc.state.tx.us/. (Accessed 2014).

Tobin, P.
2010 Bandera Pass. *Handbook of Texas Online*. (http://www.tshaonline.org/handbook/online/articles/rkb01), accessed June 05, 2014. Uploaded on August 31, 2010. Published by the Texas State Historical Association.

Tomka, S.A., A.L. Figueroa, L. Carbajal, and E. Poble
2013 *Standing Structure Survey of a Portion of San Pedro Creek, San Antonio, Bexar County, Texas*. Technical Report, No. 51. Center for Archaeological Research, The University of Texas at San Antonio.

Tous, G. (translator)
1930 The Espinosa-Olivares-Aguirre Expedition of 1709. *Preliminary Studies of the Texas Catholic Historical Society* 1(III):35-62.

Uecker, H. G.
1991 *Archival and Historical Research for the San Pedro Creek Channel Improvement Project: The 1989-1990 Investigation*. Archaeological Survey Report, No. 199. Center for Archaeological Research, The University of Texas at San Antonio.

Visser, T.D.
1997 *Field Guide to New England Barns and Farm Buildings*. University Press of New England.

Weddle, R.S.
1968 *San Juan Bautista Gateway to Spanish Texas*. University of Texas Press, Austin.